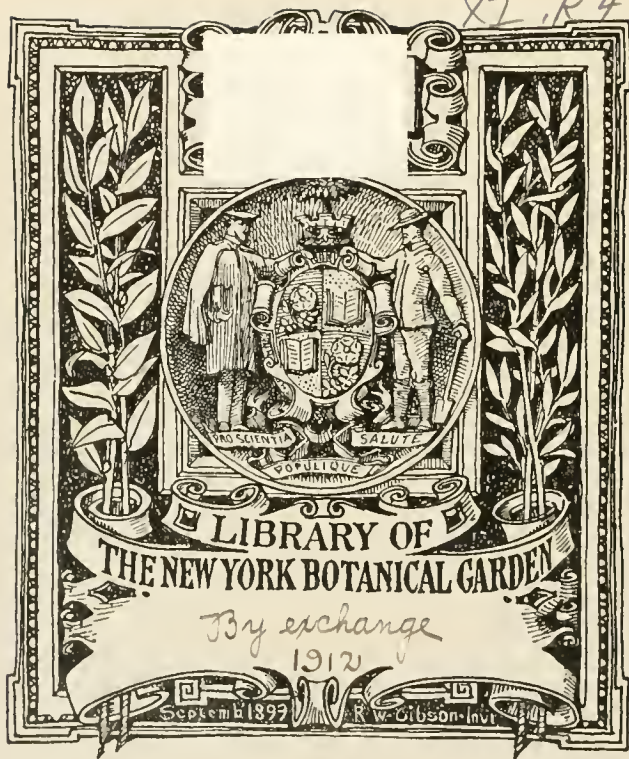




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# IRISH GARDENING

A MONTHLY JOURNAL DEVOTED TO THE  
ADVANCEMENT OF HORTICULTURE AND  
ARBORICULTURE IN IRELAND

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JANUARY  
1912

## Notes on Gardens and Orchard Work in America

By SIR F. W. MOORE, M.A.



GARDENERS and all lovers of nature who have given special attention to plant life, and who are familiar with the conditions under which plants are cultivated in their native countries, or with the conditions under which native plants grow spontaneously, on arriving in a new country naturally institute comparisons between the home country and the country visited. Such comparisons, if impartially and thoughtfully made, cannot fail to be of interest and also instructive to the visitors. In such a vast country as America there is wide scope for variation, and, indeed, so different are the conditions prevailing in the different divisions of the United States and of Canada that no one series of comparisons could fairly be instituted.

The present notes deal only with the Eastern, or older and longest settled sections of these two countries. My visit to America was paid in the autumn—September and October—which again limited the scope of observations and comparisons. On first getting into the country districts certain features impress themselves forcibly on the mind, and are constantly obtruding themselves to the exclusion of lesser details. Three of these I may mention :—

1. The bright colouring of woods, plantations, and gardens.
2. The great difference in the native Flora.
3. The absence of fences round private gardens, orchards, and houses.

The first of these is largely due to climatic causes and partly due to the second. The climatic conditions under which gardening is carried on in the Eastern States and Provinces of the United States and of Canada differ widely from those prevailing in Ireland. Roughly speaking, outdoor work is suspended from November to end of March ; all a year's work must be crammed into seven months. The ground commences to freeze hard early in November, and remains frozen until early April, added to which there is during most of this time a heavy coating of snow. With the advent of April and the increasing heat of the sun, growth is rapid. Trees burst into leaf and flower, and all is fair. Then comes the full effect of clear bright sun, often continuing unbroken for weeks, with a dry atmosphere, becoming even dryer as the summer advances, and hastening on vegetation, so that it is thoroughly matured before the end of autumn and the arrival of winter. The wood is thoroughly ripened, foliage matures and rapidly changes colour before falling, the colours being of a brilliancy to which we in this country are quite unaccustomed. There is every shade of brown, red, orange and yellow. There are the brilliant reds of the Red Maple, the scarlet Oak, and the Sumachs, some of the first to change; the yellows and orange of other Maples, and of the Birches, Limes, and Hickories; the browns of some Oaks, and so on, a brilliant spectacle commencing about the middle of September and ending late in October, when all the leaves are down. This is one effect of the sun and clear atmosphere. There is another. Early and thorough mowing of the wood followed by complete rest tends to the formation of abundant flower buds followed

by heavy crops of brilliantly-coloured fruits, and such there are. Flowering trees and shrubs are a special feature in American gardening—a marked and delightful one. Lilacs, Viburnum, Crataegus, Prunus, Pyrus, Spiraea, Azalea, Berberis, Cornus are some of the genera largely used for garden and for park effect, generally planted in fine bold masses. These plants are

but the ground under them was also red with the fallen fruits.

This abundant crop of brightly-coloured fruits both in wild and in cultivated plants was one of the most striking features in autumn effects. What the spring effect of these shrubs and trees was when they were covered with flower can be inferred from the crop of fruit,



CRATEGUS GEMMOSA  
Flowering in Genesee Valley Park, Rochester, U.S.A.

(By permission of "Gardeners' Chronicle.")

covered with flowers in springtime, and in autumn the brilliant fruits of Pyrus, Crataegus, Prunus and Viburnum add to the effect of the foliage. Such plants as Prunus hortulana, Pyrus Sargentii, Crataegus Holmesiana, C. Ellwangeriana, and other large red-fruited thorns, and many of the Berberis, are even more brilliant in fruit than in flower. Not only were the plants of some of these large-fruited thorns quite red

and is to some extent shown in the illustrations. We have, however, our compensations for the absence of some of these glories in our fresh but subdued winter effects. The warmth and cheering effects of our masses of broad-leaved evergreens are unknown. Most of the evergreens we know are not hardy in the Eastern States. There the Holly, Ivy, Laurel, Evergreen Oak, most of the Rhododendrons, the



Yew, the Cedar of Lebanon, are not hardy, and, of course, such tender things as Choisya, Myrtle, Eugenia, Brooms, can only be treated as greenhouse plants. The trees are leafless in winter, the effect given by the broad-leaved evergreens is missing, the herbaceous plants have disappeared, the ground is covered with snow, hence few attempts are made to obtain fine, bold winter effects such as are to be found in so many old Irish gardens. True, there are the Coniferæ—Pinus, Abies, Picea, Thuya, Retinospora, all ever-green and all hardy, but these alone will not suffice, a constant repetition would be monotonous, and the Eastern - American naturally concentrates on summer effects both in private gardening and in the parks. In connection with the Coniferæ it may be of interest to note that while the English Yew is not hardy the Japanese Yew, *Taxus cuspidata*, is quite hardy, and some distinct and beautiful varieties have arisen in cultivation. With the usual acumen of the race the American has gone in largely for flowering shrubs, and these are thoroughly well done. They are planted in firm, bold masses, both in private and in public gardens, and as they flower much more profusely than with us, and, as before stated, fruit correspondingly freely, they well merit the consideration given to them. Further on I hope to say something about these shrubs in the public parks.

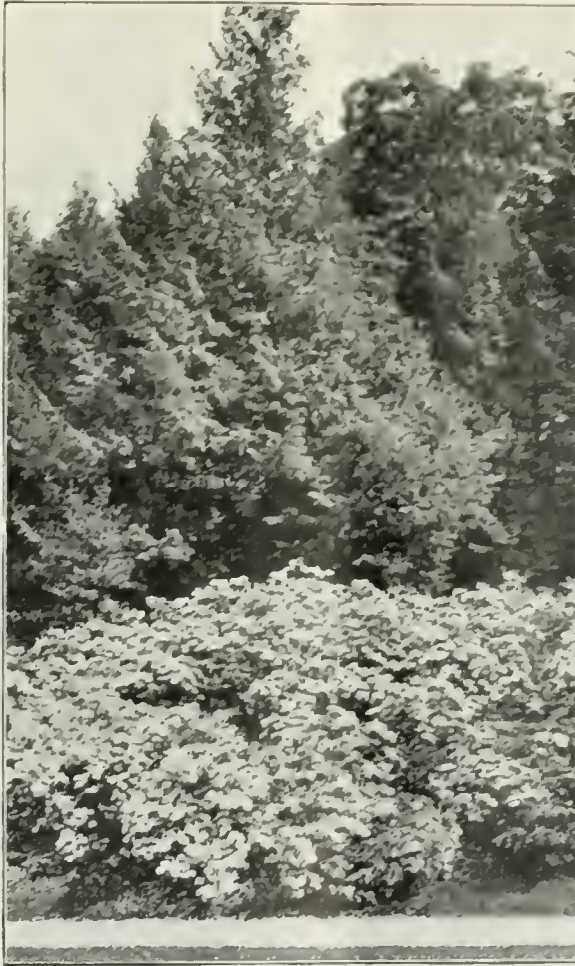
The general impression given by visits to

private gardens is one of disappointment. I do not think that I in any way slander our cousins when I state that our home gardens are more beautiful, more restful, more interesting than any gardens which I saw in America; this is especially the case with gardens near cities. Further afield one meets with large private parks and gardens

which are good, and in laying out which great taste and much skill in landscape gardening are displayed—gardens and parks in which fine, bold natural effects have been preserved, the views opened and enhanced, the drives gracefully curved, and where the groups of trees are bold and imposing. In such places the proprietors take a keen interest and supervise the work. These are, however, the gardens of the few, the humbler gardens of the thousands are indifferent or wanting. Energetic efforts are being made to impart a knowledge and a love of plants in the younger generations, and to teach the principles of horticulture and gardening.

The climatic conditions which affect outdoor gardening have also their

effects on the cultivation of plants under glass. In this branch of gardening Americans have to overcome greater difficulties than we have, and they do it successfully. Indoor gardening in America is as good as any to be found in Europe. The intense light, and especially the bright sun in winter, have to be taken into consideration. Here we strive to keep our plants as close to



KALMIA LATIFOLIA

At the Base of a Hemlock Spruce Hill in the Arnold Arboretum, U. S. A.

the glass as possible. In America plants are kept as far from the glass as possible. In a large and well managed and successful nursery, where Roses, Carnations, and Violets were largely grown for cut flower, planted out in the houses, I asked the owner why he built his houses so high and kept his plants eight to nine feet from the glass. He replied they were that height because he could not manage, owing to the expense and the danger of snow smash, to build them higher! The roofs of fine lofty conservatories look bare and naked owing to the absence of climbers. These cannot be grown, as they burn in summer and freeze in winter. In our country we constantly caution the young gardeners to water carefully and sparingly in winter, over-watering being a prolific cause of disaster in most establishments. In America under-watering is the danger, and young gardeners, especially importations, have to be carefully watched, and so it is also with ventilation, shading, and other details of indoor cultivation. I have frequently expressed the view that gardeners who can grow different classes of plants successfully in different parts of the country, and in houses of various shapes and makes, represent a type of man with a reasoning intellect of a high order. He must change most of the smaller details in applying the broad principles. Adaptability is the first necessity for any young gardener going to America. He must be prepared to unlearn much which he has learned, and do it quickly, or he will find himself out of employment. For intelligent, persevering young men there is, in that country, a good opening.

In a large, rough, wooden house in Canada I saw batches of various species of *Cattleya* grown for market work, the number and vigour of the young growths on which would have made our most skilful Orchid growers envious.

One of the finest groups of *Vandas* I have ever seen were in a large iron house, twenty-five feet high, in the Botanic Gardens, Bronx Park, New York. As good a collection of *Phalenopsis* as I have ever seen were grown in a neat modern structure in a garden near Boston, facts which give cause for reflection.

Next month Sir F. W. Moore will deal with Public Gardens and Parks' systems in America.

## The Improvement of Soils.

By G. O. SHERRARD, A.R.C.S.I.

ONE of the chief aims of a gardener is to bring the soil he has to deal with to the highest degree of fertility, and the object of this article is to discuss the various means by which this is effected. A soil consists of a mixture of particles of clay, sand, humus and lime in varying proportions. If the clay particles predominate we get a heavy soil retentive of moisture; if the sand forms the principal ingredient the soil is light, porous and warm; while a high proportion of humus means an abundance of plant food. It is seldom that we get the texture of a soil uniform to any considerable depth; more often there is a sharp line of demarcation between top soil and sub-soil, the former usually containing a much larger proportion of decayed vegetable matter (humus) than the latter, as is indicated by its difference in colour. The depth of the water table varies greatly in different soils and situations, and this brings us to the first means of improving soils—namely, by drainage.

The roots of garden plants will not live in water-logged soil, consequently they do not travel beyond the water table. By draining a soil we lower the water table, and thus enable the plants' roots to extend to a greater depth, so that their feeding area or underground pasturage is increased. But drainage does much more than this; by the removal of stagnant water, air can penetrate and oxidation processes take place which make some of the mineral constituents of the lower portion of the soil available to the plant; beneficial bacteria can also thrive and multiply, and these further increase the supply of available plant food. It is well known that drained soils are warmer and earlier than undrained ones, owing to the fact that air is much easier to heat than water. The stickiness of heavy soils is due to the presence of a high proportion of very small particles; the water percolating through the soil gradually washes away the finest of these, and they pass down the drains, leaving the soil of a better texture, thus a clay soil is rendered more workable by drainage.

Liming naturally succeeds drainage as a means of improvement, for lime unites with and so removes the acids produced in a water-



logged soil. Lime also sets free and renders available some of the principal constituents of plant food, including nitrates and potash, so that unless lime is present in the soil, manures, whether natural or artificial, do not produce their full effect. The texture of heavy soils is much improved by the action of lime in causing the finest particles to run together or flocculate, as it is called, by which means the peculiar adhesiveness of a clay soil is greatly diminished. As a preventative of the dread scourge "finger and toe" in cruciferous crops, lime is very valuable.

All soils contain the raw materials from which a plant can make its food, but they are seldom present in an available form in sufficient quantities to supply the needs of a growing crop, hence the necessity of applying manures. The manures in general use are of two classes, organic and chemical or artificial. Each class has its advantages. The manures consisting partly of vegetable matter, the chief of which is farmyard manure, not alone are of food value but have a very beneficial effect on the texture of the soil owing to the humus they contain. Artificial are quicker acting and more concentrated than farmyard manure; by means of them the particular elements that a plant requires can be supplied in the correct proportions, a prescription can be made up, as it were, to meet the needs of any particular plant. A proper system of manuring embraces the use of both these classes of fertilisers. The action of humus on a soil, whether it be heavy or light, is extremely beneficial. It absorbs water like a sponge, but readily allows it to pass upward to the plant roots in time of drought, unlike clay, in which the movement of water is very slow. It renders a clay soil less sticky and a sandy soil less open and more capable of holding moisture. Besides its mechanical action, it will readily be seen that as humus consists of decayed vegetable matter it will contain all the essential food materials that a plant requires from the soil. For these reasons fallen leaves, grass cuttings, the refuse of vegetables and dead weeds should be carefully collected and allowed to decay in heaps; by adding them to the soil in a decayed condition they act as a valuable manure.

Besides the substances mentioned there are various materials, such as wood ashes, soot, road scrapings and ditch parings, all of which

are of value in improving soil. Wood ashes for their potash, soot for the ammonia which it has absorbed in the chimney, road scrapings for lime and sand, and ditch parings for vegetable fibre and decayed vegetable remains. Old mortar rubble will help to lighten a heavy soil and to sweeten it as well.

But it must be remembered that the great means of soil improvement is thorough and deep cultivation. Every time a spadeful of soil is turned over it is improved, and the full value cannot be obtained from manure unless the soil is deeply dug. Not only are the useful bacteria rendered more active by digging, but the water-holding capacity of the soil is increased, and plants suffer much less in periods of drought. To get the best results from a soil double digging should be practised, and a liberal supply of vegetable matter incorporated with the sub-soil; the top spit should be enriched with farmyard manure, and after the crop is in a dressing of the particular artificial to which the crop is partial might be sown on the surface.



#### UTRICULARIA PREHENSILIS.

Thus curious little Bladderwort is a native of tropical and South Africa and Madagascar. It grows in very shallow water, and the strap like green leaves, one to two inches long, float on the surface. The stems run about in the mud, and from them appear climbing flower stems twining like a runner bean, and these produce yellow flowers. On the stem in the mud are formed bladders, which are transparent. The bladders are traps for catching small aquatic animals; the small animals can easily push open a valve-like door to enter, but once inside cannot get out, and perish from starvation or suffocation. The products of their decomposition nourish the plant, and are taken up by special absorption cells which line the interior of the bladders. These absorption cells are rather curious; they consist of a basal cell on which is fastened two long finger-like cells which may be clearly seen under the microscope. In the British species, like *Utricularia neglecta*, there are four finger cells attached to the basal cell. The plants in cultivation were raised from a single seed which Prof. Bayley Balfour, of Edinburgh, received from South Africa.

## Cypripedium spectabile in Co. Kildare.

BY FREDERICK BEDFORD.

THE Mocassin flower of the Northern States of America is one of the most beautiful of hardy Orchids. It grows fifteen inches to two feet high, and flowers in summer with one or two flowers on each stem. Nurserymen catalogue it at the reasonable price of eighteen pence per plant. The sepals and petals are white, while the large inflated pouch is a rich rose colour. In all gardens it is not

small, so as to get as much as possible of the bed into the photo. There are now about sixty clumps of roots, and these presented a perfect picture in June, when they carried over five hundred flowers.

From my experience I should say that *Cypripedium spectabile* can be safely transplanted from the beginning of October to March. Choose a fine day when the soil is in a nice, friable condition, and replant about four inches deep, taking care that the fleshy roots do not remain too long exposed to cold winds, as they are liable to shrivel, and make the soil moderately firm when planting.



CYPRIPEDIUM SPECTABILE  
In Co. Kildare.

always a success, so it may be helpful if I relate the history of the bed figured in the photograph.

About twenty years ago three or five imported pieces were purchased from a saleroom. These were planted on a north border in a compost of leaf-mould and peat; here their roots were kept cool and moist all through the hot weather, giving the conditions they require, consequently they grew and increased freely. Twelve years ago when the Hon. Mrs. Barton removed from Straffan she took half of the stock with her. This reduced me to a dozen tufts, so we had to try and increase it again by division. How far we have been successful, readers may see by the photograph taken last June by my foreman, William Willcocks. The flowers are shown

### TWO NEW HARDY SHRUBS FOR GROWING UNDER TREES.

*SARCOCOCCA RUSCIFOLIA* received an award of merit at the R. H. S. Show in December, 1908, and the Coombe Wood Nursery has proved that it thrives under the shade of trees. It is a dense bush about two feet high with leaves like the Butcher's Broom, but larger, and of a shiny green. The flowers are rather small, not showy, but fragrant. *S. humilis* is of still smaller stature, growing only one to one and a half feet high, of the same nature as the former, but the leaves are narrowly ovate with strong marginal nerves. The white flowers are very fragrant and produced in spring, followed by roundish black berries. This shrub can also be recommended for the rockery. Both come from China. *S. hookeriana* is an older form worth growing for its glossy foliage which is conspicuous in the winter months.

## Candid Criticism and Notes on Herbaceous Plants.

*Artemisia lactiflora*.—One looks to the Wormwoods for plants of medicinal qualities and not decorative value, but this new Chinese species has been highly praised as a novelty and figured beautifully in some catalogues, but photos are often deceptive. Speaking from an experience of two or three summers with the plant, it entirely depends upon the soil whether it is worthy of the praise bestowed. On a light dry soil it is a poor, miserable plant, but in a moist retentive soil it makes a fine bold specimen, growing four or five feet high, and also does well near the waterside. The creamy white flowers are produced in autumn on branching flower spikes, and are sweet-scented. At a distance one gets the impression of a giant Spiraea or Astilbe.

*Geum coccineum* Mrs. Bradshaw.—This variety can be recommended to one and all without any reservation, for it is a really fine novelty. For cutting and border decoration it is a welcome addition; the flowers are semi-double, two inches or so across, produced from June until October. As it can be purchased for a small amount, those who stage for exhibition should not be without a few roots. One must remember that all double and semi-double flowered plants pay for good soil and culture. A gardener would not think of starving a Chrysanthemum, then why starve plants such as these? It is a great mistake to starve such flowers, for not only does one get better blooms by manuring, but also a more continuous supply. Geums are not fastidious as to soil, but it may be a revelation to many to know that *Geum coccineum*, where it grows wild as in S. Europe, is often found in great quantity on the banks of streams or the edges of boggy places. A truly gorgeous show it makes.

*Monarda didyma* is known respectively as the "Oswego Tea," "Bee Balm," or "Bergamot." This fine old plant deserves a place in every garden. It is sometimes said to grow in any position or soil, but this is not so, for it prefers a moisture-holding compost to root into. In one garden with a light soil it was tried in many places, and cow manure, &c., was mixed with the soil, all without much success. Finally it was put in a bog bed, and now it simply romps away and has to be held in check or would smother everything. The growth is two or three feet high, with bright scarlet flowers borne in whorl-like heads in summer.

*Monarda didyma alba*, with white flowers, is not so decorative as the type. The variety called *M. d. violacea superba* may appeal to those who like violet purple, but the Cambridge Scarlet form is the brightest of all.

*M. fistulosa*, also from N. America, is sometimes recommended as a border plant, with pale-purple flowers, but it cannot be compared favourably with *M. didyma*.

*Physostegia virginiana*, called the "False Dragon's Head," is another old plant, but of considerable value when grown well.

*P. virginiana alba* is a desirable white variety, and

*grandiflora* is pink and larger-flowered than the type. They grow from two to five feet high, according to whether one treats them well or otherwise. Like other Labiates the stems are square and leaves opposite, and the flowers are borne in spikes on short stalks. The name is derived from the bladder nature of the calyx. The flowers have a curious botanical interest in that they are cataleptic—that is to say, if one touches them, moving them to one side or the other, they remain where they are put, working just as if the flower stalks were hinged.

*Phygelius capensis*, Cape figwort. The Figworts have a strange attraction for wasps. The generic name comes from "flight from the sun"; experience in Ireland contradicts this theory, for *Phygelius* thrives where it gets full sun. Unlike the other plants we have considered, it prefers a light, warm soil. In England it is usually classed and described as herbaceous, and is not too hardy there, although usually hardy in Ireland. When cut down and treated like other herbaceous subjects it will make a good display every year. Yet it is not herbaceous. If one goes to the Duke of Leinster's garden at Carton no doubts remain as to its shrubby nature, for there it is over twelve feet high on a wall, and when in flower is a glorious sight during the autumn months. The flowers are tubular, pendulous, scarlet in colour with a yellow throat. Cuttings of the young growth strike easily, and so may be increased by this method.

"PADDY."

[The writer has a very good experience of herbaceous plants, and the editor institutes this column hoping that it may be to the advantage of his readers if they can have plants frankly discussed without bias, giving praise only when it is due. If readers desire to take advantage of this column, they should send in names of plants about which they desire information. In return, please introduce this magazine to friends interested in gardening. Ed., I. G.]



### FROST.

SOME amateurs lose plants in frames by being too anxious to uncover them, for even when plants have been frozen hard they have a much better chance of recovery if the mats are left on the frame for a day after the frost has gone, for then their thawing will be a gradual one. The theory of how plants are injured by frost is that the sap, like water in freezing, contracts until it reaches four degrees centigrade, then swells in becoming colder, and on turning to ice the swelling bursts the cell wall. In a rapid thaw the sap escapes and is lost, but in a gradual one it is partly absorbed by the living cell contents or protoplasm. Another theory is that the plants perish from drought. The living shoots are giving off water-vapour which cannot be replaced during a frost. When roses or snails are received during a hard frost it is a good plan to lay in a dark shed or cellar and sprinkle with cold water. To protect a plant in the open which is at all tender give the ground a good mulching with dead leaves, straw, manure or ashes, and if a shrub, place some bare or evergreen branches through the head.



## Winter in the Alpine Garden.

By R. A. MALBY.

ONE of the many charms of the Alpine garden is the "furnished" appearance which it presents at all times of the year.

While many of these little mountaineers die down more or less in the autumn, there are quite a large number of them that do not, and by careful selection in planting these can be so distributed about the garden as to give it a cheerful appearance all through the long winter months.

How welcome in dull December days are the deep

How different and infinitely more cheering is this prospect throughout the winter than that usually provided for us in any other kind of garden! At least where the space available is small, and, after all, most of us have small gardens.

The average villa garden, with its border down each side and its soddened patch of grass in the centre, terminated by a turf bank, is indeed a sorrowful outlook compared with an Alpine garden suitably arranged in a similar space.

All this winter charm of the Alpine garden, however, pales into insignificance before the fairy-like touch of the hoar frost. Then, indeed, it is a thing of beauty, with all the hummocks of *Dianthus*, and patches of *Saxifraga* and *Arabis*, crystal-clad and sparkling, like so many diamonds in the sunshine.

The most lowly fragments of withered foliage or seed stems become ropes of glittering facets, while the lime spots on the encrusted *Saxifragas* seem to have a special attraction for the hoar frost, where the crystals arrange themselves upon the leaves like fringes of silver. Old seed pods assume a beauty hardly rivalled by the flowers which preceded them in the full flush of summer.

Sedums, especially *S. turkestanicum* or *Ewersii*, with its woody flower stems half reclining on the ground, take on in a single night the appearance of a piece of coral. Then, too, by the waterside, if we have a pool, we find a similar transformation.

The Iris growths, though broken down, are all encrusted with glittering particles, and if any of the branched seed stems of the Water Plantain yet

remain their delicate outline has secured a heavy deposit of these frost crystals and send back the light in myriad dancing points, claiming attention much more emphatically than it ever did while in flower.

Snow, too, has its charm, and adds a beauty of another kind to the rock garden, though usually the appearance is hardly as graceful and delicate as hoar frost.

Doubtless the snow blanket is much more acceptable to the plants themselves, as it is undoubtedly the absence of such a covering which renders it difficult to winter some of our little treasures, since in our erratic climate they have to withstand frequent changes in temperature—quite warm growing weather for a few days and then cold spells which check them, consequently preventing them ever getting the perfect rest they obtain during many months in their mountain homes.

The accompanying photographs give a faint idea of some winter studies in the Alpine garden, and illustrate how the hoar frost crystals attach themselves to the *Saxifraga* rosettes and outline the *Dianthus* leaves.

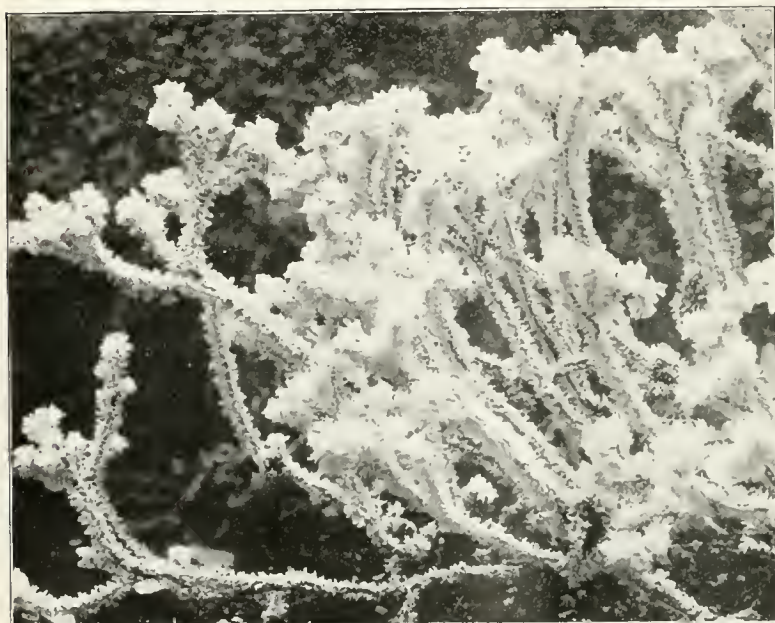


Photo by]

HOAR FROST ON STEMS OF SEDUM EWERSII.

[R. Malby,

green cushions of *Acantholimon* and *Armeria*, soft downy leaved cascades of *Arabis* and *Cerastium*, while interspersed among them the quaint Conifers which so happily break the line by their vertical or horizontal branches. How well, too, at this time of year the lovely cushions of the mossy *Saxifragas* show themselves, and what charming contrasts they make, from the more shady portions of the garden, with the silvery hummocks of the encrusted section, such as *S. aizoon*, *Cotyledon*, *Cochlearias*, and the more dignified and solitary rosettes of *S. longifolia*. Even in our wet winters these latter soon dry with any feeble ray of sunshine, and then how white the lime spots are upon them!

Then again among the many little sheltered corners formed by adjacent rocks some early-flowering bulb peeps forth—such as *Crocus chrysanthus*, *C. Sieberi*, *Iris reticulata*, *Narcissus Bulbocodium monophyllum*, *Scillas*, *Bulbocodium vernum*, and *Chionodoxas*. In these sheltered corners they often appear considerably before the usual time of flowering in the more open wind-swept places.

## Clerodendron Thomsonæ.

THIS *Clerodendron* is amongst the best of flowering stove plants with a climbing habit; in some gardens it is known as *C. Balfouri*. It produces large, smooth, dark green leaves, and large panicles of bright crimson flowers, with pure white calyces. By starting it early it will bloom early in spring, and there is no difficulty in keeping it back until the summer is far advanced. So long as the roots

these must be cut back to the plump wood. The shoot should then be trained regularly round an ordinary wire trellis, or sticks inserted in the soil just within the rim of the pot will give the necessary support. To ensure the soil being evenly moistened the ball should be plunged for several hours in tepid water. Where the plant is required for conservatory decoration, or to afford flowers for cutting, it is well to grow several medium-sized specimens, by which means, if they are started at different times, a long succession of bloom



Photo by

[R. Marby]

A FROSTY MORNING IN A VILLA GARDEN.

are quite dry the plant remains dormant, even when subjected to a temperature high enough to excite growth, which is necessary to keep it in health. *Clerodendron Thomsonæ* is such a free bloomer that it will flower in a 6-inch or an 8-inch pot comparatively as well as when it has attained a large size, provided the preceding season's growth has been well ripened. This plant thrives best when potted in a mixture of equal parts peat, loam, and dried cow or sheep manure, with the addition of a little charcoal and silver sand. Plants that were dried off in autumn, after having made the requisite amount of growth, will have cast all their leaves. The extremities of the shoots, more or less according to their strength, will be wanting in solidity;

may be obtained. As soon as a little growth has been made manure water should be given regularly with abundance of clear water and full exposure to light, though not so as to burn the foliage. This *Clerodendron* does well as a roof-climber planted out, but it is most useful when grown in pots, in which way the time of flowering can be better regulated. It may be readily increased by cuttings of the ripened wood inserted in sandy compost, and placed in a propagating case with temperature of 70 to 75 degrees. *Clerodendron* is subject to mealy-bug; the best cure for this pest is constant attention by washing with soft soap and warm water, by which means it may be readily kept under control.

J. N. P.



## Coloured Conifers.

By J. W. BESANT, Royal Botanic Gardens, Glasnevin.

IN some minds there is a feeling against the use of all trees and shrubs having leaves which vary from the normal green of the species. It is true there are forms of variegation with little to recommend them, and the over-planting of colour forms has frequently spoilt what, by judicious selection, might have been pleasing and beautiful. As a rule, it is dangerous to have single plants dotted promiscuously about parks or pleasure grounds, the effect proving spotty and unsatisfactory, this being true alike of deciduous and evergreen subjects. Under the present heading only evergreens are intended, and for winter effect there are some good forms among the smaller growing Conifers. When planting, informal groups should be aimed at, and it may be worth while selecting positions which will afford a contrast with green-leaved trees. As most of these coloured forms are quite as hardy as the type plants they may often be used in places where some degree of shelter is desired. The most distinct forms are those of a golden or yellow hue, though some of the glaucous blue varieties are beautiful and effective. The forms with white or cream-coloured variegation are seldom of much merit.

The genus *Cupressus* affords some remarkably good golden and yellow forms, among which the varieties of *Cupressus Lawsoniana* are notable. Three good yellow forms are *C. Laws. lutea*, the young growths of which become golden yellow in winter; *C. Laws. gracilis aurea*, a graceful form colouring well in winter; and *C. Laws. Stewarti*, a bright-yellow form, very effective.

Of glaucous-blue or silvery varieties we have *C. Laws. Allumii*, a plant of dense upright habit, with a steel-blue appearance when at its best, and *C. Laws. argentea*, a handsome variety with a silvery-blue tone in good specimens.

The Monterey Cypress, *Cupressus macrocarpa*, is represented by *C. M. lutea*, a very fine plumose form, having the young leaves and growths bright-yellow, while *C. M. sulphurea*, a more recent variation, has the young growths sulphur-coloured. *Cupressus nootkatensis lutea* is a good yellow form of the Nootka Sound cypress, while there is also a variety with creamy-white variegation, on the whole not so effective as the first-named.

The Japanese *Cupressus obtusa* has given a great many varieties, among which there are a few good colour forms. *C. obtusa aurea*, *C. obtusa gracilis aurea*, and *C. obtusa nana aurea* are three good forms, differing in habit, and all of a more or less golden yellow colour, very bright and effective in winter. *C. obtusa alba* has the tips of the branchlets nearly white, but it is less effective than the yellow forms.

*C. pisifera*, also found in Japan, has produced some good colour forms, similar to those of *C. obtusa*. *C. pisifera aurea* and *C. pisifera plumosa aurea* are two good yellow varieties, while *C. pisifera squarrosa* forms a very handsome specimen, with a fine silvery appearance, which is most effective. Among the *Thuyas* we find varieties with much deeper colouring than the forms of *Cupressus* noted above. The American *Arbor Vitæ* is prolific of colour forms, capable of fine

winter effects. *Thuya occidentalis lutea* is a handsome golden yellow form. *T. o. warcana aurea*, deep yellow, and *T. o. vervaneana*, deep orange yellow, are two very effective varieties. *T. o. Bodmeri*, a dwarf globose variety, is also beautifully coloured brownish orange.

The Chinese *Arbor Vitæ*, *Thuya orientalis*, has one or two good colour forms, of which the best are probably *T. o. aurea* and *T. o. elegantissima*.

*Juniperus chinensis aurea* forms a handsome specimen of columnar habit, having the young growths of a bright golden yellow colour. Very few of the pines have produced colour varieties worth growing, but the golden yellow form of *Pinus sylvestris* is well worthy of notice, becoming very bright in winter.

Golden Yews are frequently met with everywhere, and do not call for special notice. Some of the best forms are *Taxus baccata aurea*, *T. b. fastigiata aurea*, *T. b. elegantissima*, and *T. b. Dovastonii aurea variegata*.

*Cryptomeria japonica*, the Japanese Cedar, has a most beautiful variety in *C. j. elegans*, which changes in winter to a beautiful bronzy red, creating a wonderfully rich effect.

Among the Cedars, *Abies* and *Piceas*, there are some with the young growths of a wonderful glaucous blue tint, rendering them conspicuous in winter.

*Abies concolor violacea* makes a pretty specimen when doing well, while *Picea pungens glauca* and *Picea Engelmannii glauca* have a beautiful glaucous blue effect in winter.



THE "Himalayan Journals" of Sir J. Hooker provide very interesting reading for the garden lover, giving one an idea of how some of our plants grow in their native habitats. Extract:—"In the months of April and May, when the magnolias and rhododendrons are in blossom, the gorgeous vegetation is, in some respects, not to be surpassed by anything in the tropics; but the effect is much marred by the prevailing gloom of the weather. The white-flowered magnolia (*M. excelsa*) is the predominant tree at 7,000 to 8,000 feet; and in 1848 it blossomed so profusely that the forests on the broad flanks of Sinchul and other mountains of that elevation appeared as if sprinkled with snow. The purple-flowered kind again (*M. Campbellii*) hardly occurs below 8,000 feet, and forms an immense, but very ugly, black-barked, sparingly-branched tree, leafless in winter, and also during the flowering season, when it puts forth from the end of its branches great rose-purple cup-shaped flowers, whose fleshy petals strew the ground. On its branches, and on those of oaks and laurels, *Rhododendron Dalhousie* grows as an epiphyte, a slender shrub, bearing from three to six white, lemon-scented bells, four and a half inches long and as many broad, at the end of each branch. In the same woods the scarlet rhododendron (*R. arboreum*) is very scarce, and is outvied by the great *R. argenteum*, which grows as a tree forty feet high, with magnificent leaves twelve to fifteen inches long, deep green, wrinkled above and silvery below, while the flowers are as large as those of *R. Dalhousie*, and grow more in a cluster. I know nothing of the kind that exceeds in beauty the flowering branch of *R. argenteum*, with its wide-spreading foliage and glorious mass of flowers."

## Amaryllis Belladonna

THE beautiful Belladonna Lilies are natives of South Africa, and therefore accustomed to long-continued drought and brilliant sunshine. The past hot summer just suited their requirements, and in consequence they gave a prodigious amount of flower this September. Their ruddy flower stems were two to two and a half feet high, carrying clusters of variously shaded pink fragrant flowers.

A beginner must not expect such a show of flowers as seen in the photo, yearly, for they are uncertain in flowering, and after planting take a year or two to become established. The Belladonna grows freely in an open border, but does not flower as well as at the base of a wall. A warm greenhouse wall, or one with a southern aspect,

really charming. The Cama, at the base of a greenhouse wall, is not protected at all, so it should thrive in many gardens throughout Ireland.

There are several improvements upon the old Belladonna. *A. B. maxima*, as grown by Mr. Bedford, of Stradfan, is the earliest to flower; it is a grand, bold subject, producing large clusters of flowers on tall stems. *A. B. kewensis* is also a large form, while *A. B. blanda* differs only in colour from the type, coming out almost pure white, changing to pink as the flower ages. For colour only *A. B. rosea perfecta* is hard to beat, it is of such a rich, warm rose. Two new hybrids have been shown this year, having for their parents *Brunsvigia Josephine* and *Amaryllis Belladonna*; the offspring have received half of each generic name, and are called *Brunsdonna Sandere* and *B. S. alba*.



AMARYLLIS BELLADONNA  
At the Base of a Greenhouse Wall.

is to be preferred. It is worth going to some trouble to prepare the site for the large bulbs. Take out the soil to two feet or three feet and put in six inches of broken bricks for drainage, and over this turves to keep the drainage open. If the soil is not good, add some loam, leaf-mould and sand. In planting place the bulbs in groups close up to the wall, and for the first winter cover with bracken. They resent root disturbance, so when digging the border keep away from their roots. The leaves start to grow very early in spring, and when the spring is advanced the growth can be encouraged by weak liquid manure. The foliage ripens off early, and can then be removed, for the end of summer is their period of rest.

The flowers appear in September without the leaves, but those who object to the unclothed look of the stems could interplant with a foliage subject. A colour combination, admired greatly at Glasnevin, was produced by a purple-leaved Cama, which had grown into a clump of Belladonnas, and the effect produced was

The showy greenhouse plants often called Amaryllis are now known as Hippeastrums. One of the parents of these plants is *H. Ackermanni*, with large crimson flowers about five inches across. At Glasnevin it flowers yearly, in summer, at the base of a wall; in fact, it seems just as hardy as the Belladonna. In gardening dictionaries it is given as a stove plant. There are many plants such as this which might be tested throughout the milder parts of Ireland, which probably will grow well in the open, and readers, when they make a success, should then give their experiences to fellow-workers.



Stranger, if thy lot has laid  
In toilsome scenes of busy life,  
Full sorely may'st thou rue the strife  
Of weary passions ill repaid  
In a garden live with me  
If thou lov'st simplicity.

## Roses.

By O'DONEI BROWNE, M.D.



WHAT surprised me most at our Show in Horse Show week was the number of "newly-arrived" rosarians in the show tent. In utter dismay I asked Dr Hall who was this and who was that—men I had never seen before—and it made me glad to see "young bloods" at last springing up in Ireland to carry on rose worship. It augurs well for the Show, and what they showed was not rubbish—no, not by any means. It was Dr. Hall's day for everything—the Cup, the Teas (*horribile dictu*), the Hybrid Teas, all went back to Monaghan. I felt my roses were unkind to me, especially the Teas, for it was the first time I was ever beaten with them, and it will be the last, I hope. But a greater shock was yet in store for me. Outside the

tent sat a sedate gentleman to whom I was introduced. He turned out to be the "Great Pemberton," the hero of a hundred fights. In our chat he was so kind and frank, but he said one nasty thing which I cannot forget. Talking of the various classes of roses, he had a good word for all until he reached my favourites. "As for the Teas," he said, "they will be a dead race in five years." I think this remark was forced out of him, because he had been complaining of the hopeless jumble there seems to exist nowadays over new roses being pitchforked into any class where the raiser thinks his novelty will create the most favourable impression. No one can say that Mr. Pemberton does not know what he is talking about in matters relating to roses, and no one can deny that there are several roses in a class which does not belong to them. There are at present two exceedingly well-known roses which came from the same parents, born from the same hip, raised in the same atmosphere, and sent out by the raiser—one a Hybrid Perpetual and the other a Hybrid Tea! Then again there was a rose shown a few years ago by a first-class raiser as a Hybrid Tea—parentage guaranteed a pure Hybrid Tea—yet this rose, in spite of all of these precautions, was put into the Teas. It is a pity that this was done, because had it been left where nature and the raiser meant it to have stayed it would have been useful for its colour. Now it is in a class where there are already too many and far better varieties of its own colour. If this "Box and Cox" business goes on much longer we shall not be truthful when we talk about our several classes.

TWELVE GOOD TEAS  
FOR EXHIBITION.

White Maman Cochet.  
Maman Cochet.  
Mrs. E. Mawley.  
Mme. Constant Soupert.  
Mme. Jules Gravereaux.  
Mrs. Myles Kennedy.  
W. R. Smith.  
The Bride.  
Harry Kirk.  
Mrs. Foley Hobbs.  
Medea.  
Souv. de Pierre Notting.

TWELVE GOOD HYBRID PER-  
PETUALS FOR EXHIBITION.

Mrs. John Laing.  
Frau K. Druschki.  
Horace Vernet.  
Ulrich Brunner.  
Hugh Dickson.  
Etienne Levet.  
Prince Arthur.  
Victor Hugo.  
Dr. Andry.  
Helen Keller.  
Comte de Raimbaud.  
A. K. Williams.

TWELVE GOOD HYBRID TEAS  
FOR EXHIBITION.

Mildred Grant.  
Mr. W. J. Grant (*climbing*).  
Bessie Brown.  
Dr. O'Donel Browne.  
George C. Waud.  
William Shean.  
Lyon Rose.  
J. B. Clarke (*pillar*).  
Mme. Melaine Soupert.  
Mrs. Theodore Roosevelt.  
Mons. Joseph Hill.  
Dean Hole.

## TWELVE GOOD BEDDERS.

La France.  
Frau K. Druschki.  
Caroline Testout.  
Dean Hole.  
Liberty or Richmond.  
Killarney (*double new*).  
Pharisaer.  
Lyon Rose.  
Captain Haywood.  
Hugh Dickson.  
Lady Ashtown.  
Cynthia Forde.

## Columnea Gloriosa

(NEW SPECIES).

WE can safely predict a great future for the above as an autumn and winter flowering basket plant. A coloured photograph is needed to do justice to this subject, for the flowers are a warm scarlet colour with a yellow throat, and such colours are doubly welcome in the duller period of the year. The corolla is arched about three inches long by one and a half inches across the wide-open mouth, the lower segment is narrow and strap-like, the corolla narrows to a tube at the base where it is gibbous, or has a large pouch behind resting on the calyx. Whitish hairs are scattered over the exterior of the corolla. The calyx is star-shaped, of five spreading segments, the leaves are opposite, thick in texture, from an inch to an inch and a half long, obliquely oval, with an inrolled margin.

Columneas are stove evergreens, and this new comer is the best of the family. It somewhat resembles a large-flowered *Aeschynanthus*, and requires similar culture. The plant in the basket was photographed at Glasnevin in September; after flowering it was placed in a greenhouse with a temperature of 55° to 60°, the shoots continued their downward progress, and are now two feet long and again set with flower buds which should open by the middle of January. The trailing shoots are pretty, for both stem and leaves are clothed with crimson hairs. *C. gloriosa* grows well in a basket lined with moss and filled with a light compost of peat, leaf mould, chopped sphagnum, and sand. The branches easily bend, and to furnish the basket can be pegged down to the peat, and when the top is furnished the other growths may be allowed to hang downwards. Another way of growing it is by pegging it to an old tree fern stem or post covered with peat. *C. gloriosa* is a native of Costa Rica, and was presented to the Glasnevin gardens by Kew.



## Otto of Roses.

THE Queen of Flowers is of no upstart origin, for Cleopatra is said to have covered the floor of her dining hall with roses to the depth of a cubit, and Nero expended some thousands of pounds on roses for a single feast.

The Arabs introduced the distillation of the rose from the East, where the art of distilling rosewater was practised long before it was in the West, although the discovery of the separation of the Otto was made in Europe forty years before the same discovery was accidentally made in the East.

The version of its discovery in Persia is related in a history of the Great Moguls in a chapter entitled "Marriage of Princess Nour Djiban." At the marriage a great fete was prepared, and every extravagance was indulged in. The princess had a stream in the garden through which rosewater flowed. The emperor and princess, walking along the banks of the canal, noticed an oily liquid floating on the surface. This was collected and recognised by the whole court as the most delicate of perfumes. The designation "Aettr Gyl," literally "fat of the flower," was given to this essence from which the English Attar or Otto of Roses follows.

The largest rose garden in the world is found in Bulgaria; it covers the northern portion of the old Turkish province of Eastern Roumelia, and is bounded on the north by the great Balkans; there is a stretch of fifty miles or more of rose fields, the two principal rose valleys being around Kasanlik and Karlovo. Although Germany, France, Persia, &c., produce some Otto, yet the world's supply comes from Bulgaria. Plucking the roses starts at daybreak, for they lose their odour if a strong sun shines upon them. As soon as picked they are taken direct to be distilled. The flowers are picked with the calyx, the whole being distilled. Roughly, 1,000 roses weigh one kilogram, and a hectare (2½ acres) yields about 3,000,000 flowers, which yield in their turn

about one kilo of the Otto, so it takes about 100,000 roses to yield an ounce of Otto.

The rose trees are planted close together, forming hedges of 50 to 100 yards long, with a distance of 6 feet between the hedges; they reach, when mature, 6 feet high. They are increased by dividing the stools, and the usual time for planting is October or November; in five years the plantations are in their prime, and with good culture may last 15 to 20 years. The sandy slopes of the Southern sides of the Balkans are well watered and favourable to the growth of these roses, and the soil

has a peculiar property of giving a high yield of Otto from roses grown upon it. In other parts of the country they have been tried without the same success. The rose cultivated for Otto in Bulgaria is a form of *R. damascena*, the red damask rose; it is believed by Baker to be a variation of *R. gallica* which was distributed from France to Mesopotamia. A white rose (*R. alba*) usually borders the Bulgarian plantations, but its perfume is not so good as the red rose.



## WATER GARDENS IN TOWNS.

VILIA GARDENERS may, with a little trouble and ingenuity, get a good deal of pleasure by setting up little artificial water gardens by the simple means of using tubs. If the object is to cultivate bog or marsh plants the method is comparatively easy. The tubs may be set on the surface of the soil, or, what we

find better, sunk into the soil until the rim of the tub is about an inch above the general level. The tub is then partly filled with suitable soil, the specimens planted, and then soft water gradually added until the vessel is full. The after attention chiefly consists in adding water occasionally to make up the loss by evaporation. If it is required to grow such subjects as the smaller water-lilies provision must be made to keep up at least a slight movement of the body of water. This can be secured by having a supply barrel at a higher level, and either by direct tube or syphon arrangement place the contents of each in communication with one another.



COLUMNEA GLORIOSA, A NEW GREENHOUSE PLANT.

See opposite page.

## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.



**F**EW, indeed, of the many plants which occupy the flower garden bloom during this cold and dreary month. Were it not for the beautiful and fragrant *Chimonanthus*, *Jasminum nudiflorum*, *Daphne blagayana*, *D. hybrida*, and *Lonicera fragrantissima* this department would be uninteresting just now. A clean and tidy appearance should be maintained by sweeping grass edging and cleaning walks, stirring the surface of beds and borders; at the same time make good any clumps or plants that require renewal. Protect by adding a layer of dry sifted soil or ashes to any tender clumps of bulbs or plants that may require it. Carefully look over all Alpine plants; a little top-dressing may be given, it will protect their surface roots and greatly help them later on. All newly planted roses, shrubs or trees should have a good mulching of manure or other light material to prevent frost entering the loosened soil and injuring their roots. Any of the tender shrubs on walls or borders should also be mulched and protected by spruce or other branches, to guard against frost and cold winds, which often cripple the bloom buds, which

would give a fine display later on. Should any alterations require to be made which necessitate bringing or removing any heavy material, frosty weather should be taken advantage of, when the walks are hard and firm, and would not therefore be cut up or injured during the operation.

A careful inspection of the plants required for summer display should now be made, and any deficiency made good by propagating. Seeds of *Antirrhinums*, tall and intermediate, *East Lothian* and intermediate stocks, *Nicotiana* of sorts, should now be sown in a warm pit or greenhouse, as these require longer time than most annuals to reach the flowering stage. All the above can be pricked off into frames when ready, and they all transplant well.

All the strong-growing sections of roses can now be well thinned out by removing all dead and weak wood, retaining all the strong growths made the previous year; those can be trained as required, whether on walls, trees, arches, banks, or pergolas. The following sorts require no pruning further than stated above:—*Ayershires*, *R. sempervirens*, fine for banks; *Wichurianas*, *Polyantha grandiflora*, *Euphrosyne*, and many others. They will be greatly benefited by a good dressing of old cow manure worked in at the roots, which will add much to their profusion of bloom early in June, and help their summer growth.

## The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath,  
Kilruddery, Brix.

**P**EACHES UNDER GLASS.—If your early peach trees are not already cleaned and tied, it will be wise to take advantage of the first opportunity to get them in order. Those who require peaches for the beginning of July should commence starting the trees without delay. Make sure that all borders are properly drained, and the roots in healthy condition, also see that the shoots and every part of the house is thoroughly washed with some insecticide. When pruning and tying it is very important that you should have a regular distribution of nicely-trained, well-ripened wood. Then on no account allow them to become dry at the roots. Open top ventilators during fine mornings, and spray overhead about one o'clock. Only a little fire is required for a time.

**APPLES AND PEARS.**—By the end of January all planting operations should be completed. Those who are behind with this work must push forward with all possible dispatch. At the same time see that it is done carefully; unsatisfactory results can invariably be traced to the careless way trees are planted. Always aim at growing the best, and remember that badly formed, small fruit are of little use either for market or home consumption. Good specimen apples of *Bramley's Seedling* and *Cox's Orange Pippin* are now fetching 1s. to 2s. 6d. per dozen in Dublin. All growers should include *Rival* in their collection, if they have not already done so. *Rival* is a richly-coloured dessert apple, in season from November to January, and crops freely. It may not be necessary, or even desirable, to have a large number of varieties, but rather to ascertain which are suited to particular districts, and encourage their growth.

**PEARS.**—There are many varieties of this luscious fruit, but I have no hesitation in stating that *Doyenne du Comice* is one of the best dessert pears in cultivation. Finish pruning at your earliest convenience, and do not neglect to examine all old ties, and leave plenty of room for the young growth to swell when retying trees to walls.

**GENERAL REMARKS.**—When planting, never forget the importance of, first, providing perfect drainage, and, second, of giving plenty of room in the holes for full extension of roots.

**JAPANESE WINEBERRY.**—I seldom meet with this plant in my travels, although I have grown it for several years, and can speak highly of its excellence, both for the fruit and decorative purposes. It is very useful for covering pillars and pergolas, or treated in the same way as raspberries trained in rows on wires. The underside of the leaves are of a beautiful silvery colour, and this, combined with the redness of the wood, especially during winter months, give it a very picturesque appearance.

The *Loganberry* is not such an ornamental plant as the *Wineberry*, but gives a heavier return of fruit. The fruit has a mingling of the *Blackberry* and *Raspberry*, but it is larger than either. The fruiting canes should be cut right out after they have produced their crop.

## The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor,  
Co. Kildare.

**T**HE year just past has not been a good one for the cultivation of first-class vegetables, the spring being wet and cold, while the summer was too dry and hot. Never were the benefits of deep cultivation and plenty of manure more seen, for where the soil was only stirred to the depth of a few inches, as is so often done, the crops were in many places almost burnt up. In order to be successful in growing vegetables the ground should be deeply dug, or, better still, if at least part of the vegetable ground be bastard-trenched each year, so that in a few years all the garden will be gone over, and then ordinary trenching may be done. When at the first trenching you bring up the bottom soil and put down the good top soil you will find your crops do not thrive for a year or two, unless you have a good amount of compost as a surface-dressing and plenty of artificial manure. Therefore I advise bastard-trenching, thereby keeping the good soil still on the top. Proceed thus—Mark off your plot into beds of equal size, of about 4 feet wide, and take the soil 12 inches deep out of bed No. 1 and place on the far side of the last bed for finishing it, and then put a good dressing of half-decayed manure over the first bed and dig it in, working the soil another 12 inches deep if possible, but not burying the manure deeply. Next put 6 inches of soil from bed No. 2 over same, and then a good dressing of well-decayed manure, and over this the next 6 inches of soil from bed No. 2, so that the soil is taken out of this bed 12 inches deep. Manure and dig as for No. 1, and continue until plot is finished, leaving the ground rough, to be acted on by frost, &c. Give a dressing of lime, half pound per square yard, over the surface after trenching, this being the way to secure the soil conditions which suit the plants, so that I would strongly advise all who want to grow good vegetables to trench a part of their gardens each year.

Considering the very wet time we have had for the past few weeks I think it well to remind all who have allowed digging, trenching, and other garden work to get into arrears to get it done as quickly as the weather will permit, as from this month onward each week will bring as much work as can be efficiently done.

**SEEDS.**—The seed is important, for from inferior strains good results cannot be produced. The whole secret of good vegetable cultivation is in working and manuring the soil, keeping it free from weeds, and sowing good seed of the best strains procurable at the right time, and then giving careful attention to cultural detail during growth. Seed catalogues are now arriving, and the seed order should receive early attention, and my advice to kitchen gardeners is to clear out most of the seeds left over from last year, with the exception of cucumber, melon, tomato, and vegetable marrow. I admit old seed may germinate all right, but very seldom does it produce a plant as good as new seed, and it is better not to run the risk of failure.

Many kinds of vegetable seeds may be sown in boxes or pots in heat in January—onions, leeks, tomatoes, cucumbers, cauliflowers, and lettuce. Useful-sized boxes for raising the above seedlings would

be 2 feet long, 15 inches wide, and 4 or 5 inches deep. If the boards in bottom of boxes are close together, bore four or six holes in each box  $1\frac{1}{4}$  inches in diameter, put in some broken bricks or cinders for drainage, and cover with leaves or moss. Fill with soil composed of loam two parts, one part leaf-mould, and one part well-decayed horse manure, as that from a spent mushroom bed, and enough sand to keep the whole porous; when well mixed put it through a quarter inch riddle, and make fairly firm in the boxes. Sow the seed thinly, and press down with a smooth piece of board. Cover lightly and give a good watering, unless the compost is very damp. For above kinds of seeds give a temperature of at least 60 degrees. After sowing, and when the seeds are up, give air on all favourable occasions when the weather is mild. Cucumbers should be sown in pots thinly, and plunged in bottom heat of 70 to 80 degrees, and if the soil when sowing is moist little water will be required till the plants are up. It is necessary early in the year to avoid giving the plants a chill by exposing them to a draught or applying cold water to the roots or leaves.

PEAS should now be sown in boxes and placed in a cool house or frame. Long, narrow boxes are best, while carrots and radishes may be sown in frames on well prepared hotbeds, using rich light soil.

**POTATOES.**—New potatoes are much appreciated by all, and various are the methods adopted to get an early dish, even when little convenience exists for such work. Some grow a few pots about 10-inch size, others grow on hotbeds, and some have heated pits with hot water pipes. No matter which of the above methods are adopted the seed potatoes should have been placed close to the glass in a warm greenhouse in December and occasionally syringed. These should now have strong sprouts started, and all but one should be rubbed out. In planting use light soil, such as one part loam, one part leaf-mould, and one part of well-decayed stable manure well mixed, and two sets can be placed in 10 or 11-inch pots if used, only half filling the pots with soil when planting, and earthing-up when the potatoes grow. Always have the soil made warm before using. When the young tubers are forming weak liquid manure is of much assistance. To have potatoes fit for use in April and May, they can be grown in frames on hotbeds, the beds being made up of leaves two parts and fresh stable manure one part. Make the bed about 4 feet deep and very firm, having it at least one foot larger all round than the frame to be placed on it. Put about 12 inches of soil in the frame, the same as used for pot culture will do, and have it at least 1 foot from the glass. Sow the potatoes in lines  $1\frac{1}{2}$  feet apart and 1 foot from each seed in the line, and cover 3 or 4 inches deep. Topdress when the haulm is 6 or 8 inches high, and keep free from injury by frost or sun during growth; for this reason ventilation requires constant care. Radishes can be grown between the lines of potatoes.

Leaves should be collected, if not already done, for mixing with manure for hotbeds and to be put into large heaps to decay. Never spread manure on the plots till you are ready to dig it in, as much of the nitrogen of the manure is lost in the air if left exposed on the surface; this is an everyday occurrence and a very bad practice.



## International Exhibition, May, 1912.

READERS OF IRISH GARDENING are aware that a great Royal International Horticultural Exhibition is to be held in London, May 22nd to May 30th, inclusive, in 1912. So far Ireland has not evinced that interest in the event which might reasonably be expected, and the subscriptions from this country have been few. A feature of the show is that individuals, societies, and counties are presenting cups as prizes for various classes. Sir Frederick Moore, of Glasnevin, is endeavouring to present for competition two cups from Ireland, to be known as the Irish Cups, for Classes 244. Flowering Shrubs, and 245A. Alpine Plants. He has asked the Committee to reserve these two classes. Will any of our readers who approve of the project—and we are sure there will be many—kindly communicate with Sir Frederick Moore, Royal Botanic Gardens, Glasnevin? A circular will shortly be issued.

### Note.

COLLECTING SEEDS.—This is the right season of the year to collect haws, the keys or fruits of ash, and holly berries. The right way to treat these is to bury them, mixed with sand, in a pit, and so keep them until the spring, else they will not germinate the same season in which they are sown. Fir cones may be collected and stored away in a dry state, when the scales will open away from the axis and expose the seeds. Seeds of broom and whin may be sown at once if fine weather prevails.

## A Warning against Peat-Moss Litter Manure.

Extract from the *Journal of the Board of Agriculture*.

"ITS use at Kew has been mainly as a topdressing for lawns and borders, but only after it has been exposed to the air for about six months, and turned several times. It has not been used for mixing with the soil, but this spring some of the flower beds were in error manured with it. Its effect on the health and growth of the plants which were afterwards put into these beds for the summer was markedly deleterious. The plants not only failed to start into growth, but many of them weakened and died, and as this was evidently due to the manure in the soil in which the plants were set, samples of the soil and manure were submitted to Dr. J. A. Voelcker for analysis and report.

"Dr. Voelcker's report was as follows:—

"I have now completed my examination of the sample of Soil and Peat Moss Manure which you sent me.

"The analysis of the Peat Moss Manure is as follows:

Moisture . . . . .	39.59
Organic matter and salts of ammonia . . . . .	40.87
Oxide of iron and alumina, with traces of phosphoric acid . . . . .	1.49
Lime . . . . .	0.90
Alkalies, magnesia, &c. . . . .	4.81
Insoluble siliceous matter . . . . .	6.34

100.00

"Undoubtedly there is a strong prejudice among gardeners, and market gardeners in particular, against the use of farmyard manure made with peat-moss litter. To what that prejudice is due I have not been able exactly to find out. But there remains the fact that market gardeners will not use this manure until it has been kept stored for a considerable time—say quite two years. After that time it is reckoned safe to use. You inform me that the manure in question was not absolutely fresh, but had been kept for some time, though, it would appear, nothing like those two years mentioned.

"I have come to the conclusion—from my examination—that the ill effects in the present case are due to the marked acidity of the manure, this acidity being due to organic acids in the manure and not to mineral ones. I find in the soil (in which the manure has been used) iron compounds present in the ferrous—or not fully oxidised—condition, and it would seem to me likely that these are the result of the liberal use of an organically-acid body such as the peat moss, and that an unhealthy, imperfectly oxidised condition of the soil has been brought about.

"Very probably if the manure be kept longer and allowed to rot more thoroughly it becomes more aerated and oxidised, and then would not show the ill effects noticed.

"This it seems to me is a possible explanation of what has occurred in the present case, and it is the explanation, at least, which would suggest itself to me."

## Obituary.

SIR JOSEPH HOOKER.—One of Britain's greatest scientists, Sir Joseph Dalton Hooker, died at his residence near Sunningdale, Berkshire, on December 10th, aged 94. It is said that almost to the end his studies were pursued; even last year he corresponded with Glasnevin Botanic Gardens, and named a new showy salmon-flowered plant as *Impatiens Herzogi*. Kew has been practically made under the directorship of the Hooker family. When Sir William Hooker, father of Sir Joseph, became director, Kew only comprised 15 acres; in four years it had grown to 650 acres. Sir Joseph resigned the directorship of Kew in 1885, having been director for twenty years and assistant for ten. He travelled and collected in Syria, Morocco, America and the Himalayas, and we are indebted to him for the introduction of many grand Himalayan *Rhododendrons* which enrich the more favoured gardens of Britain. Among his literary works are "*Flora Antarctica*," "*Himalayan Journals*," "*Flora Indica*," "*Students' Flora of the British Islands*" (in collaboration with Bentham), and many others. He was a great friend of Charles Darwin, who made him his first confidant concerning his revolutionising theory of "*Origin of Species*." His decorations and titles were many, and even in 1907, on the occasion of the bicentenary of Linnaeus, the Swedish Academy of Science awarded him the only specially struck Linnæan medal as "the most illustrious living exponent of botanical science."

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No. 72

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ADVANCEMENT OF HORTICULTURE AND  
ARBORICULTURE IN IRELAND


FEBRUARY

1912

## Notes on Gardens and Orchard Work in America.

*(Continued)*

By SIR F. W. MOORE, M.A.



I HAVE previously remarked that energetic efforts were being made in America to teach horticulture and gardening to the younger generation, and these efforts are worthy of all commendation, not only on account of the pleasure derived from the cultivation of plants and the intimate association with nature which such work entails, but on account of the thoroughness of the methods adopted and the wide scope of these methods. To meet the cases of all classes and ages of the people the public parks and gardens are being made as educational as possible—educational from every point of view. The public park system in America is very extensive and very advanced—a system in which the people with every reason take the greatest pride and interest, and they have the satisfaction of knowing that there is every justification for these sentiments. Large sums of money are freely voted by the municipalities and other public bodies for the upkeep of these parks, and the public concur in this huge expenditure of their money for their own benefit and entertainment. Further, the parks have the approval of wealthy and benevolent philanthropists, and many of the American parks owe their present excellent position to benefactions in money and in land from prominent citizens. Attached to many of the parks are what are termed “park drives,” long stretches of road planted with

suitable trees, sometimes two broad roads with trees between and trees at each side, one road generally reserved for motors only, and in all instances fine banks of shrubs interspersed between the trees. These large banks of shrubs are everywhere a prominent feature not confined to the park drives only, but prominent in the parks proper—a feature of great value and interest, and one which is worthy of the highest praise. To a stranger the parks are at first rather bewildering. From the ordinary road or street one gets gradually or abruptly into a shady drive; from this one emerges into a glade or fine open space—the park proper—but no gate has been passed, no fences or boundary walls met with, and it is difficult to realise that one is in a public park. This absence of fences is not universal, but it is very general, and it is increasing, every effort being made to impress on the public that they are the proprietors of these parks, and that they must respect their own property and guard it. It would be untrue to say that in every case this experiment had been an unqualified success. Some places suffered severely at first, but the lesson is being gradually learned, and after a while the majority appreciate the responsibility thrown on them, and become as conservative and appreciative as if they really were in possession, and help to keep down the depredations of the small minority, who have not yet developed the “bump” of law and order. Another feature in American parks and public gardens, which at once strikes a stranger, is the number and extent of the carriage drives all through them. There is hardly a striking

group of plants or trees, hardly a good view, hardly an interesting feature, which cannot be approached in carriage or motor. The absence of fences and the great extent of these parks and gardens renders this possible. The distance many of the parks are from the thickly populated parts renders it necessary. In most European gardens the result of such vehicular traffic would be disastrous; they are too cribbed and confined, land is scarce and very valuable, far too scarce and valuable to permit of broad carriage drives. In our large parks

animals the forest reasserts itself and the plants which formerly grew there commence to grow again. Most of the woods in the eastern portions of America are "second growth," the primordial giants with their pigmy undergrowth vanished under the axe and fire. They want to reassert themselves, to grow again, to be as before, and they are encouraged. A section or "reserve" has been made in most important parks where the ground has been protected from trespass and where the native trees and plants have been allowed to grow freely, and so



BUSSEY BROOK VIEW WITH HEMLOCK SPRUCE HILL ON THE RIGHT, U.S.A.

we have the drives and duly appreciate them, but not to the same extent which the Americans do, as our climate and our conditions generally tend to make us more inclined to walk than to drive, especially where we can do so in comfort. On the other hand, the American seems to have no time or inclination to walk more than he can help doing; he prefers to drive. Having got inside the parks the process of education commences, the plants are generally well labelled, and every effort is made to get bold and natural effects. The landscape gardening is of a high order, and where a fine view can be had it is kept open as much as possible, and it is preserved from contamination by artificial additions. Most of the land now under large parks was at one time under forest growth, and when protected from man and from

give a true, if miniature, picture of the glories of the past to illustrate truly the native vegetation of the district and to form a splendid object lesson for students and lovers of wild plants. These "reserves" represent on a microscopical scale the giant national parks or reserves of the United States and of Canada, the Yellowstone Park in California, and the Algonquin Park in Ontario. In the former many of the giant red woods and Sequoia gigantea still remain, and much of the vegetation and animal life is preserved. It is probably known to most readers, but the Canadian park at Algonquin reserve is a much more modern reservation, as it is not yet a quarter of a century old. It is situated in the eastern district of Ontario some 1,500 feet above sea level, and contains about 1,800,000 acres with numerous



hills, lakes, and rivers. Much of the forest which covers the hills is virgin forest, and it extends from the tops of the hills right to the shores of the lakes.

In the autumn, September, when the leaves change colour, the view from a boat on the lake is surprisingly varied and beautiful. Both plants and animals are strictly protected, everything is left to nature. Beavers, wolves, deer and birds abound and increase rapidly; in fact, the beaver, which has been exterminated in many districts, increased to such an extent that

the parks and arboretum at Rochester, and the arboretum at the Experimental Farm, Ottawa. The Arnold Arboretum at Boston is described as the "Tree Museum of Harvard University," and if all departments of the university are as efficient and as well worked as it is, it is indeed in a happy position. Originally founded through a legacy of £20,000 left by Mr. James Arnold for the advancement of science, being handed over to Harvard University on condition that that body gave a piece of land of about 125 acres, which had also been



THE LILAC WALK IN THE ARNOLD ARBORETUM, U.S.A.

the government had to reduce the number, as they were cutting off the water supply by constructing their dams across the outlets of some lakes, and a town was left in darkness owing to there being no water to work the electric lighting plant. Beaver houses, beaver dams, beaver paths, and trees and branches cut down by beavers abound. There are several hotels beside the park, and as camping out is permitted in the woods, Algonquin is a favourite resort for holiday parties in summer.

The public parks and gardens of New York, Philadelphia, Washington, and other large towns are well known to all who visit America, but in other towns parks of at least equal beauty and of even greater interest to the student and to the plant lover are to be found. Such are the Arnold Arboretum at Boston,

left to the university, to be planted and maintained as an arboretum where all the trees and shrubs which could be obtained and which were hardy in the climate of Boston were to be cultivated. This arrangement the university accepted, more land was added, further funds were obtained, and a new agreement with the city of Boston was entered into under which fine drives were constructed by the city, police are provided, and other items in the upkeep paid for out of the rates, the university retaining full control and management of all the collections, so that the citizens of Boston have now at Jamaica Plain, within a few miles of their city, probably the most instructive and educational park in the world, consisting of over 220 acres, open from sunrise to sunset every day of the year, and this under an agreement extend-



ing over one thousand years. Surely the rates are well spent in securing such a benefit. Charles Sprague Sargent, Professor of Arboriculture, was appointed director, and under his fostering care great progress has been made. Professor Sargent, the greatest living authority on trees and shrubs, has seen too much of the wild nature in many lands to allow the arboretum to become spoiled by artificial and unnatural objects and outlines. Nature appeals to him, and in return he appeals to nature, and has retained all the natural effects possible, consistent with the objects in view. The arboretum is useful as a demonstration of good and sound landscape work as well as a "museum of trees." Some of the vistas are most effective, such as that along the brook shown in the illustration, and the views from the Pinetum and from Thorn Hill and other places are fine. In the course of experiments and observations it was discovered that trees and shrubs raised from seed saved in gardens and parks could not be relied on, that they did not represent the true wild type, and also that in many cases there had been intercrossing between closely allied species in cultivation, and that several of our supposed species of cultivated trees were hybrids. To ensure absolute accuracy in the types Professor Sargent set to work to collect seeds from as many wild trees and shrubs as possible, and from these seeds the vast majority of the plants in the collections have been raised, thus adding greatly to the interest and scientific value of the collections. He himself explored the North American Continent practically from end to end; he has travelled Europe, right to Siberia and the Caucasus; he has explored Japan, China, and other countries collecting seeds, and he and his agents are still continuing the same work. To quote his own words, "these explorations have enriched the arboretum, and through it the gardens of the United States and of Europe." The striking features in such a park must be many, and there is not space to go into details. The flowering shrubs form a conspicuous feature, and one which is greatly appreciated. One of the illustrations in the first part of this article (IRISH GARDENING of January) shows a flowering group of *Kalmia latifolia* at the foot of Hemlock Hill, and a further illustration now shows the lilac walk when in full flower. Lilacs grow well in Eastern

America and flower profusely; hence they are very popular and receive much attention. In the Arnold Arboretum is a very full collection of both species and varieties arranged on both sides of a road for a long distance. When these are in flower a regular pilgrimage sets in from Boston to see them, and "Lilac Sunday" has become quite a popular institution. The best and most interesting natural features in the park is Hemlock Hill, a bold rocky eminence still closely covered with fine plants of the Canadian Hemlock Spruce (*Tsuga canadensis*), a remnant of the original natural coniferous forest, and probably marking a geographical limit for the species. This fine arboretum has acted as a stimulus to Rochester, and in that city the park is fine and extensive. There are several large parks covering about 1,500 acres, of which 600 acres were presented to the city; the rest was purchased. The management of these parks is on broad and intelligent lines, the Highland Park of 115 acres being devoted to a collection of trees and shrubs.

(To be continued.)



#### EUPHORBIA BIGLANDULOSA.

THROUGHOUT December and January this fine spurge has been the brightest plant on the Glasnevin rockery. The telling colour is particularly welcome at this time of the year, the long shoots hanging over a large rock, giving a fine effect. From a strong specimen numerous sturdy shoots arise from the rootstock, some nearly half an inch in diameter. These shoots are densely clothed with glaucous leaves, which have a very distinct spiral arrangement; the stems grow upright for eighteen inches to two feet, then appear the bright yellow heads of flowers. Like other *Euphorbias*, it is the bracts which are the attractive part of the inflorescence, the real flowers are small, and appear later on between two curious yellow glands. After flowering, the stems lengthen to two or three feet, and then hang downwards, losing their erect position. The plant may be increased by cuttings or raised from seeds.

#### THE GLORY OF THE SNOW.

THERE are many bare places which might be made beautiful in early spring by planting these bulbs, such as under shrubs in shrub beds or at the base of deciduous trees—in fact, almost any place except among coarse grass. Some of the best varieties are:—*Chionodoxa Luciflora*, with blue and white flowers early in March; *C. l. alba*, a beautiful pure white form; *C. l. Boissieri*, a large-flowered later variety; *C. l. Alleni*, or *gigantea*, with the largest flowers of all, but only producing one or two on a stem; *C. l. sardensis*, a pleasing kind, with flowers of a Gentian blue (the bulbs were first found close to the ruins of the ancient town of Sardis at four or five thousand feet above sea level).

## The Arbutus as a Native Irish Tree.

By R. LLOYD PRAEGER, B.A.

"THIS aboriginal beautiful ever-green tree of Greece is now unequivocally ascertained to be indigenous in that part of the county Kerry, called Killarney; it decorates the fascinating lakes of this enchanting spot, hanging from the crevices of the seemingly barren limestone rocks in the greatest state of luxuriance and beauty, with hardly any earth about its roots. I am told that it is to be met with at Glengariff, and in all the mountainous situations west of Bantry Bay, County Cork." So wrote Walter Wade in 1804, and the various Irish Floras published since then, while supplying more minute particulars as to its occurrence, do not substantially add to the statement of the author of "*Plantae Rariores in Hibernia inventae*." The *Arbutus*, most beautiful and most interesting of our native trees, grows often in abundance within a limited area, which may be defined as lying within a twenty-five-mile radius of Glengariff. Its absence from the rest of Ireland, and from Great Britain, led some of the earlier observers to suggest that it was an introduced species; but, as Wade said over a century ago, there is no doubt as to its being indigenous. As regards its general distribution, it is essentially typical of the Lusitanian group that makes both

the flora and the fauna of the south and west of Ireland of such supreme interest to European naturalists. Outside of Ireland it is found in south-west France, throughout the Spanish peninsula, and all along the Mediterranean. It is, in fact, a typical Mediterranean species, with an outlying station in Ireland, full six degrees north of its most northern Continental station (Charente Inférieure). In its habit, too, it conforms to the same type, its branched, bushy, evergreen aspect recalling the "*Mâquis*" vegetation-type which



W.D. & S.

Photo by]

Drummond.

FRUIT OF ARBUTUS UNEDO

is formed around the hot, dry region of the Mediterranean, and which intervenes between the deciduous temperate forest of middle Europe and the desert vegetation of northern Africa south of the Atlas.

If we visit the *Arbutus* in its Irish home we find it abundant, for instance, on the shores and islands of the Upper Lake of Killarney. There it forms an ingredient in native woods of mixed type, composed of oak (*Q. sessiliflora*), birch, holly, mountain ash, &c. The ground flora, more than the trees, give evidence of the remarkable mildness and moisture of the atmosphere there; the great sheets of filmy ferns, both *Hymenophyllum tunbridgense* and *H. unilaterale*, which drape the rocks and clothe the tree stems, strike with amazement the botanist accustomed to the climate of any typical portion of continental Europe. In these woods the *Arbutus* forms trees of up to twenty-five feet or more in height, but the taller ones have been mostly drawn up by surrounding vegetation. The most typical specimens are spreading and of rounded form, their red-brown stems much branched, rising fifteen to twenty feet, and often half as much again in diameter, through the head of the tree. The trunk is often six feet in circumference, in an old specimen, close to the ground. J. T. Mackay ("Flora Hibernica," p. 182) mentions one nine and a half feet in girth; but many of the old trees branch so low down that one cannot measure the dimensions of the trunk, as there is practically no trunk to measure. The dimensions quoted show that in Ireland, at the extreme northern limit of its natural range, the growth of this tree is not impeded by the conditions of its environment. For instance, Parlatores ("Flora Italiana," viii. 723) gives its height as six to twenty feet; Dr. Boswell Syme was clearly misinformed when ("English Botany," vi. 29) he describes the Irish tree as "rarely over six or eight feet high."

Nevertheless, signs are not wanting that, even at Killarney, the *Arbutus* sometimes suffers from the weather. It is a brittle tree, the forks of the branches being the weak point; and in the Killarney woods many specimens have suffered much from breakage, either by snow or storm, and others show dead branches, probably the effect of cold. But at Killarney it does not fear exposure, growing equally well in the deep recesses of the woods and on storm-swept

islets. Neither is it particular, as are so many Ericaceous species, as to soil. While most of its stations are on the Old Red Sandstone rocks, it flourishes equally well on the almost soil-less limestone rocks of the Lower Lake.

The Irish plant varies but little, and I am not aware that any of the varieties which have been described on the Continent have been recorded in Ireland. Rouy and Foucaud ("Flore de France," x. 102) mention four leaf-forms—namely, *serratifolia*, *integrifolia*, *crispa* and *salicifolia*, characterised, as the names imply, by the leaves being sharply serrate, devoid of serration, wavy-margined or narrow. Halácsy ("Conspectus Floræ Græcæ," ii. 283) and Parlatores (*loc. cit.*) mention a variety, *turbinata*, with large, pear-shaped fruit. Mackay (*loc. cit.*) mentions a scarlet-flowered variety as pointed out to him at Glengariff. A hybrid (*A. andrachnoides*, Link) between this species and the well-known *A. Andrachne*, a plant of the eastern Mediterranean, has also been described.

The occurrence of this tree in Ireland raises a very interesting question as to how it arrived here. If it was the sole representative in Ireland of the Pyrenean or Mediterranean flora we might be tempted to ascribe its origin to some chance introduction. But we find that it is only one of a well-marked group of southern forms confined in the British Isles to the south and west of Ireland, with several members with a similar Pyrenean range on the Continent appearing in the south-west of England. Along with these plants we find a group of animals, some of which, like the spotted slug of Kerry, are devoid of any means of crossing barriers of water, having just the same distribution in Ireland and on the Continent. No theory of chance introduction by winds, currents, birds, or human agency will stand when all the members of this wonderful group and their biology are taken into consideration; and the consensus of opinion among those who have studied this problem is that these plants and animals are very ancient species, and bear witness to migration during a period when a continuous Continental shore-line allowed of free land-dispersal along the western coast-line of Europe, the subsequent breaking down of this old Continental margin leaving these species stranded on the most westerly outposts of the Continent as we know it.



## "The Strawberry Tree"— *Arbutus*.

By J. W. BESANT, Royal Botanic Gardens, Glasnevin.

**A**RBUTUS UNEDO, commonly known as the Strawberry Tree, is one of the handsomest evergreen winter-flowering shrubs amenable to out-door cultivation. Al-

though specimens up to twenty feet high are to be met with in gardens, the habit is strictly that of a large shrub. Numerous strong branches spring from near the base, maintaining a fairly equal rate of growth, and branching again as growth proceeds. The final result is a rounded, billowy mass of great beauty, particularly when in winter the branches are thickly furnished with pendant clusters of greenish white, pale pink or rosy red, bell-

shaped flowers. Often, too, the clusters of bright red fruits, product of the previous year's flowers, intermingle with the current season's blossoms, adding a quite unusual charm. Not content with beauty of foliage, flower and fruit, the *Arbutus* adds yet another in its attractive ruddy brown branches; this feature is, perhaps, more marked in some exotic species.

Although a member of the *Erica* or Heath family, which, with some few exceptions, detest

lime, the *Arbutus* flourishes equally well whether the soil be calcareous or not. This indifference to lime is pointed out by Mr. Praeger in his instructive notes on *Arbutus* in its native habitat about Killarney. At Glasnevin, too, where a large part of the garden is composed of an arid, dry, limestone gravel, the common "Strawberry Tree" is the most conspicuous evergreen shrub in the collections. Many large specimens are

a feature in the older part of the garden, while several foreign species take equally well to the same conditions.

The typical plant, large specimens of which, eighteen to twenty feet high and as much through, adorn the grounds, has narrowly oblong, finely-toothed leaves and usually greenish white flowers, though in some specimens the flowers are of a delicate pink hue.

There are numerous varieties cul-

tivated in gardens varying from the type in habit, size and incision of the leaves and in the colour of the flowers.

*A. U. compacta*, of dense, close habit, is well described in the varietal name. *A. U. integerima* (often called *A. rotundifolia*) has rather rounded leaves, not toothed. *A. U. microphylla* has leaves shaped and toothed like the type, but very much smaller. *A. U. quercifolia*, as the name implies, has leaves bearing some



ARBUTUS MILLERI

A hybrid from *A. Andrachne* × *A. Unedo*. Photographed at Glasnevin, December 20th, 1911.



resemblance to those of an oak. *A. U. rubra* (*A. Croomii*) is by far the handsomest of all the varieties, bearing pendant clusters of rosy red flowers in early winter and continuing in beauty for six weeks or two months.

There appears to be two plants in cultivation under this name as plants have been received at Glasnevin as *A. U. rubra* with flowers much inferior in size and colour to the true *A. Croomii*, which is referred by botanists to *A. U. rubra*.

*ARBUTUS HYBRIDA*.—This is the botanical designation for a series of hybrids the produce of *A. Andrachne*, a Levantine species, and *A. Unedo*, which also hails from southern Europe. There are some four or five forms known in gardens under different names, and which for garden purposes it is convenient to retain. The leaves, as a rule, are broader in proportion to their length and less constantly toothed than in *A. Unedo*. *A. Milleri* bears large clusters of attractive pink and white flowers, and throughout December a bush at Glasnevin, five feet high, was covered with flowers.

*A. photiniæfolia* is a fine form, bearing large handsome leaves resembling those of *Photinia*. Other good forms are *A. magnifica* and *A. Rollissoni*. All flower freely when quite young, and form collectively a most useful set of ornamental evergreens.

*A. Andrachne*, one of the parents mentioned above, is a highly ornamental species from the Levant and surrounding country. The leaves are up to five or six inches long, oblong and scarcely toothed. The flowers are greenish-white, appearing in early spring. In winter the old bark peels off, revealing the newer ruddy-brown bark below. Young plants may need some protection in cold districts, otherwise this species grows freely in the open.

*A. canariensis* reaches a fair size in the Canary Islands, and it is proving hardy in some of the milder counties of Ireland.

*Arbutus Menziesii* (syn. *A. procera*) is the Californian Madrono introduced in 1827. Like the previous species, it is better with some protection when young, but with age it becomes hardier. Occasionally the ends of the branches get nipped by frost in early winter, but the plant as a whole is not materially damaged. The bark of this species is particularly attractive, and on that account alone it is worthy of inclusion in choice collections. The leaves are

large and finely-toothed, the flowers white, in pendant clusters. There is a good specimen in the collection at Glasnevin, near the Rose Garden, and it is now in flower.

## Saturday in my Garden.\*

UNDER this heading Mr. F. H. Farthing has endeavoured to afford help and guidance to the inexperienced amateur gardener, not to the owner of a spacious domain with professional experts, but to the possessor of a small plot of ground whose horticultural activities are restricted within the confines of the suburban back garden and the quarter of an acre or so of ground attached to a small country house. It appears Mr. Farthing has been giving advice to amateur gardeners in the columns of the London *Daily Express* for some years, and these articles, revised and other ones added, now form the present volume.

The book is printed and illustrated well, and, considering the amount of its letterpress, 484 pages, is very cheap.

This book appeals to the amateur gardener who has a small amount of time and a small amount of money to devote to his favourite hobby; it teaches him how to make the most of his garden with a small outlay. It begins with the villa garden from the time it has been made or left by the builder, often with all the good turf removed and sold or possibly buried by rubbish and broken bricks. The different kinds of soils are described and how to cultivate them to get the best results.

In an elementary way some manures and their application are dealt with. Manuring means adding plant food to the soil. It stands to reason that if you continually crop a piece of ground with potatoes or roses you gradually rob it of essential plant food, until at last your crops fail or your rose trees only put forth a mediocre type of bloom. Therefore, if you exhaust the ground of the elements which supply the needs of your plants it follows that you must from time to time repair that deficiency. After educating the amateur on the soil question and teaching common-sense views on manures, it proceeds to describe the way to make the garden beautiful by means of annuals, perennials and climbers, giving special chapters on favourite garden flowers, as Sweet Peas, Violets, Roses and Carnations.

The amateur's greenhouse is dealt with and the plants he may expect to grow in a small structure are described.

The book finishes with a chronological table of the operations necessary or desirable in a small garden.

\* "Saturday in my Garden." By F. H. Farthing. 2s. 6d. net. Grant Richards, 8, South Building, High Holborn, London.



"By the breath of flowers

We are called from city throngs and cares,  
Back to the woods, the birds, the mountain  
streams and flowers;  
Back to free childhood's days  
Fresh with the dews of tenderness."

## Winter-flowering Begonias.\*

**F**EW plants possess so many attractive features as the winter-flowering Begonias, lending themselves in the way they do to bold schemes of decoration, flowering in the wildest profusion, and brightening up the greenhouse during the dreary days of winter. Since the introduction of *Begonia socotrana*, about thirty years ago, great strides have been made, for this section of Begonias now forms quite a large collection. By far the most popular is *Begonia Gloire de Lorraine*, distributed in 1893 by M. Lemoine, of Nancy, in France, raised from the inter-crossing of the well-known *Begonia socotrana* and the white-flowered South African *Begonia Dregei*. Since *Begonia Gloire de Lorraine* has become so popular, seedlings and sports therefrom have made their appearance, some of which are now extensively grown. The best, in my opinion, are *Begonia Mrs. Leopold Rothschild*, lilac pink, which sported from *Begonia Gloire de Lorraine* in the gardens at Gunnersbury House, one of the seats of Mr. Leopold Rothschild. This variety makes a handsome plant, and is considered by many to be equal or better, than its progenitor. *Begonia Turnford Hall*, a white variety, which sported from *Begonia Gloire de Lorraine* at the Turnford Hall Nurseries, and distributed by Messrs. Rochford in 1901, is quite a contrast to the pink varieties. Mixed with the pink, these plants, grown in a basket, present a beautiful appearance.

*Begonia Patrie*, raised and distributed about three years ago by M. Lemoine, of Nancy, was claimed by the raiser as a probable rival of *Begonia Gloire de Lorraine*; but, as far as one can judge at present, these anticipations do not appear likely to be realised. Still it must be borne in mind that *Gloire de Lorraine* did not bound into popularity at once. *Patrie* is of bold habit of growth, with large, handsome, shining green leaves—a very free-flowering variety, but dull in colour, and does not show up so well under artificial light as the varieties already mentioned. *Begonia Rochfordii*, which received an award of merit last season, distributed by Messrs. Rochford, of the Turnford Hall Nurseries, is a deep-coloured form of *Begonia Gloire de Lorraine*—certainly the nearest approach to a red that I have yet seen—a very fine variety, none will deny.

*Begonia Amabilis*, rose-pink, distributed by the same firm this year, is a cross between *Begonia socotrana* and *Begonia Masterpiece*; it is, without a doubt, one of the best new introductions, and is well worthy of attention as a very desirable member of the winter-flowering section.

By crossing a yellow-flowered tuberous variety with *Begonia socotrana*, Messrs. J. Veitch & Sons, of Chelsea, have obtained a distinct and beautiful race, receiving awards of merit in November for three distinct varieties—*Begonia Acquisition*, salmon-pink; *Begonia Her Majesty*, orange; and *Begonia Exquisite*, rosy-pink, distinct in colour—and their robust, vigorous constitution promises to prove of considerable value for commercial as well as private purposes. Several other types have been brought before the public at different times, but those already mentioned are the most suitable for a general collection.

Judging by the increased demands of the public, it must be admitted that these Begonias are likely to play an important part in gardens in the future. From a commercial point their value can scarcely be overestimated.

Propagating and growing of these Begonias present few difficulties, as far as my experience extends. The easiest and best method of propagating them is by cuttings. Select nice, short cuttings about two inches long, taken from the base of old plants. Cut immediately below a joint, and trim off the lower leaf. No difficulty will be found in rooting these if placed in a sandy compost, dibbling them in shallow boxes or around the sides of small pots, keeping them close in a warm house until rooted. A little judgment is required in watering, as too much moisture results in damping, which is, of course, fatal, while too little will cause flagging, which is seldom otherwise than fatal.

Great care is required in the selection of stock plants. Plants that are allowed to flower from October to March have practically exhausted themselves, and are useless, as cuttings from such plants are very weak and scarce, and it is a waste of time to try and root weak cuttings, as very few will root, and those that do will not be worth growing. The selection of stock plants should be made in October. Very healthy, short-jointed plants full of vigour are required. Cut off part of their flowering shoots and place in a cool, airy house, and pay careful attention as regards watering, placing them in a brisk heat in the early part of the year, and syringe two or three times a day; then they will throw up quantities of suitable cuttings.

Leaves that are well matured can also be used for propagating, by cutting them off close to the stem, dibbling them into sandy soil, and keeping them close in a warm structure they will quickly take root. These, I find, are not so suitable for growing on into large plants as cuttings, but potted into three-inch pots they make ideal plants, suitable for edging of groups and stages, and other decorative purposes.

When the cuttings are well rooted and seem to be starting into growth, they should be potted into thumb pots, using a compost very similar to that in which they have been propagated, keeping them in a warm structure for a few days, spraying them overhead to stop flagging, afterwards transferring to shelves or upon a stage near the glass, so as to keep the plants sturdy, maintaining the soil in a moist condition. No amount of care in the after-cultivation will undo the mischief caused by previous lack of attention. When well rooted in the small pots they should be transferred to their flowering pots. Pots six inches in diameter will generally be found sufficient for the larger plants, and five inch pots will do nicely for the second size. Cuttings rooted later in the season make nice plants in thumbs or three inch pots, and are very suitable for all kinds of table decoration.

It is a great mistake to overpot these subjects; potting should be moderately firm, and the pots clean and dry. Pay careful attention to the crocking of pots, as good drainage is essential. If the small pots get too full of roots, the latter do not run so freely into the new soil as when less root-bound. For the final potting the compost should consist of two-thirds good friable loam,

\* Paper read by H. Malam, manager of Messrs. E. Browett & Sons' Nursery, on December 21st, 1911, at Kingstown Gardeners' Society.

one-third leaf-mould and well-rotted manure, with a good sprinkling of coarse sand; the whole should be thoroughly well mixed. No artificial manures should be added, for if they are potted in an over-rich compost the latter is almost certain to become sour before the roots are sufficiently plentiful to assimilate this rich diet, and when sour it is quite unfit for plant food. A temperature from sixty to sixty-five degrees will suit them nicely during the growing season, though a few degrees warmer is not harmful.

It is important to shade from very strong sun, as the young and tender foliage is very liable to scorch. A moist atmosphere should at all times be maintained during the growing season, and during very hot weather a slight spraying overhead in the middle of the day is very beneficial; it refreshes the foliage and restores moisture to the atmosphere, checks evaporation, and therefore helps to maintain the plant in a healthy condition. Air must be afforded when possible, an even temperature is beneficial, wide variations being inadvisable, and cold draughts must at all times be avoided. As soon as the plants have finished their growth, about the beginning of October, more air should be afforded to ripen the wood, and by keeping the house comparatively dry during the flowering season the flowers will retain their freshness much longer.

Over-feeding must be carefully guarded against; highly stimulating manures in strong doses defeat the object in view and often prove fatal. A free development of healthy fibrous roots, combined with clean and vigorous foliage, is the first essential for success in the feeding of these plants. Clay's Fertilizer is very good, also Thompson's plant manure, if used alternately, half-an-ounce to one gallon of water, once a week during the growing season, makes an excellent plant food. Over-feeding of the plants is quite as bad as partial starvation; two or three waterings with sulphate of ammonia, used at the same strength, during the flowering season will give the flowers and foliage a better colour, and will add to their fresh appearance.

By inserting a neat stake about one foot or eighteen inches long near the centre of each plant, and neatly looping up the growths with thin raffia, very nice pyramidal-shaped plants can be obtained.

Watering at all times should receive careful attention; too little or too much will upset the proper working of the organs and induce ill-health, and it is a well known fact that a plant in vigorous health is far less likely to catch infectious diseases than one in a run-down or sickened condition. To keep the plants strong and healthy is a great point towards successful culture.

The only enemies these plants are subject to are greenfly and the mite. The former can be kept in check by timely fumigating with XL All; but the mite, an insect scarcely visible to the naked eye, is difficult to combat if once it gets a foothold. It is a pest that has caused considerable trouble during recent years amongst Cyclamen, Ferns, Gloxinias and Begonias. Once the pest gets established it sucks the sap out of the leaves, which become dry and hard, and have a brown appearance. A very dry atmosphere is conducive to the increase of these mites. The mite can be held in check by dipping the plants into a weak solution of tobacco juice, or fumigating with XL All.

## The New Year in the Alpine Garden.

By REGINALD A. MALBY.

ONE of the many advantages of the Alpine garden, however small, is the immense amount of interest it contains all through the year if one only knows and loves its little inhabitants.

Not a month of the year need pass in the rock garden, even a suburban villa, without some charming little Alpine plant greeting us with its cheery blossom, while in the spring and early summer such a garden is a galaxy of flower from end to end.

Often before the average gardener has realised that spring is here, sheets of *Chionodoxa* will be spangling the slopes of the rock garden, contrasted here and there with *Bulbocodium vernum*, early *Narcissi*, *Scillas*, various species of *Crocus*, *Muscari*, and a host of other wee Alpine plants.

How such a wealth of beauty, coming as it does at a time of the year when it is so much appreciated, should be overlooked to such an extent is a mystery.

Possibly the increasing interest which has been taken in Alpines during the last few years will result in their much wider use and cultivation.

I feel sure that (especially for the small garden) no similar outlay will produce so much pleasure and interest all through the year, and since the majority of Alpines are perennials they will, with reasonable care, increase, so as to form an ever-expanding source of healthful amusement.

Probably we owe more to the *Saxifraga* family than to any other single section for a large amount of this prolonged interest in our rock gardens.

One can hardly point to a month when some member of this huge family is not adorning our garden either by flower, hummocks of silvery rosettes or cushions of deep-green foliage.

Among the earliest of this genus to welcome the dawning year with their beautiful and cheering blossoms are *S. Burseriana* and *S. Stribnryi*.

The former is a native of eastern Europe, and grows as a dense, hard cushion of erect, spiny leaves, of a greyish-green colour, and about one inch high, from which rise, in January or February, crimson stems, each supporting a pure-white flower of satin-like texture.

It seems to thrive best in a position slightly shaded from the mid-day sun, and in a very gritty compost, fully 50 per cent. of which should consist of small stone chips to allow of rapid drainage: loam, sand and old mortar completing the mixture in about equal parts. Broken stone can with advantage be placed around the tuft to keep it free from soil particles which are liable to be splashed on to it by rain.

It is a charming little plant for a choice corner of the rock garden, near the eye, and when in suitable conditions is by no means "sly," as the accompanying photograph serves to show.

The second plant referred to above, *S. Stribnryi*, belongs to the *Kabschia* section, and is one of the newer red-flowered, encrusted *Saxifragas*, and a near



relative of *S. Griesbachii*, *Frederici-Augusti*, and others.

The normal growth is a neat silvery rosette, an inch or so across, while those about to flower begin to raise their centres during December, and gradually prolong the flower spike, which changes in colour from the grey-green of the rosette to a rich red when the inflorescence is fully developed.

The flower itself is somewhat inconspicuous, but the whole of the branching stem and calyces are of this rich-red colour, and in addition are heavily covered with hairs.

Usually after flowering each rosette sends out a number of offsets, and these should be carefully propagated; since, like most of the *Saxifragas*, the flowering rosette has completed its functions when the seed is ripe, and it then dies.

I find that a fairly full exposure to sunlight, and, as in the case of *S. Burseriana*, a semi-moraine soil suits this plant very well, though with the addition of even more stone chip, and care should be taken to so arrange pieces of stone about the rosettes, that no dirt will splash on to the foliage, since this is very detrimental.

Since both of these species often come into flower during inclement weather, it is advisable, to prevent the blossoms being bruised and battered by the elements, to place a piece of glass above them, so as to protect them from the worst of the weather, while allowing an ample current of air to play around the plants.

A beginner starting to grow *Saxifragas* will find all those of the mossy section quite easy to cultivate. Some of the encrusted group are extremely beautiful and grow well in any open situation. *Sax. Cotyledon* is one of these easy-doers, and the variety *pyramidalis* makes a beautiful pot plant for a cool house.

## Obituary.

**WILLIAM WATSON.**—After a brief illness, Mr. William Watson, the founder of the well-known nursery business of Messrs. Wm. Watson and Sons, died at Simla Lodge, Clontarf, on Monday, January 8th, at the advanced age of 78. The deceased was born in Douglas, Lanarkshire, and went to Ireland in 1856. He was extremely fond of horticulture and an enthusiastic amateur, practising first in a small garden opposite what was then the well-known Farrell's Nursery. Here he experimented most

enthusiastically, being very successful in cross breeding tricolor and bronze *Geraniums*, which were then so popular, and he met with marked success.

He was the first to raise from seed *Primula japonica* and *Todea superba* in quantity, while among his particular favourites was the Carnation, which subsequently became one of the leading features of the firm. As an amateur he was associated with all the leading gardeners and amateurs around Dub-



*SAXIFRAGA BURSERIANA*

Photographed by W. J. Mitchison in the Rock Garden at Mullaboden, Co. Kildare.

lin, and was hon. secretary to the Dublin Horticultural Club till 1877. On his retirement he was presented by the club with a handsome gold watch and an illuminated address.

Moving to Clontarf in 1881, he started the Clontarf Nurseries, and was joined later in the business by his sons James and John. Mr. Watson is survived by five sons and five daughters—all of the former being more or less connected with agricultural and horticultural trades.

For many years before his death Mr. Watson had been obliged, owing to increasing deafness and the infirmities of age, to forego taking an active part in business. This was managed by his sons James and John Matchett, who had joined the firm in 1888 and 1895, respectively. They continue to carry on the firm's progressive business at Clontarf and Nassau St. as before.

## Notes on Roses.

By O'DONEL BROWNE, M.D.



THE heavy rains from November up to the present have left the ground most unfit for planting operations, and it was a wise proceeding for any purchaser of roses to have heeled in his plants rather than plant newly-arrived trees from the nursery in sodden ground. Those of us who shifted our maidens early in September were lucky to have done so. I always try and make a point of shifting my maidens early in the fall of the year. It is true and an undoubted fact that some people do not believe in this early shifting, but I have always found it pay. The plants are inclined to shrivel up a little, but removal of most of the foliage and frequent watering after planting ensures a flow of sap—and should the weather keep mild, it means that new rootlets are formed—a great addition to the welfare of your plants.

As I have said before, those readers who did not shift their maidens early, or who did not get their plants in before the heavy rains commenced, should now seize the first available time and do so. Going round your roses you will notice most extraordinary growth taking place. Personally, I do not like to see this—it is precocious, and out of place and season. Our roses should be still asleep. At pruning time one is tempted to leave these pushing eyes, in the vain hope that they are alright, but in nine cases out of ten they are doomed to fail. Far sooner would I come and find big fat plump eyes when I wanted to prune. These eyes are ready to get away, whereas in the pushed growths there is the havoc of frost hidden. Some good authorities advise you to prune the plants, you purchase and plant now, at the time of planting. I never could see the force of this argument. I prefer to plant as the plants arrived from the nursery, and prune in the proper season. Great care should be taken in lifting heeled-in plants; your holes in the rose beds where you are to plant should be all ready. Lift your plants very carefully, a few at a time, and try not to damage the young white rootlets which some may have made. Wrap them up in a sack, or put them into a box or barrow, and throw a cloth over them to prevent cold winds from drying the roots. In planting spread the roots out as much as possible, having removed any damaged ones with a sharp knife, cutting from below. Add some of the driest soil and leaf-mould round the roots and in between them, and tread lightly. Add more soil, and tread firmly. Do not put roots in contact with manure. See that the junction of roots and bud is about two inches underground, and do not plant too deeply, four inches is enough. When you have finished this plant, take another out from under the sack; above all things

guard your roots, and keep them moist. A damp, muggy day is the best day, a cold, blowing wind with a touch of east or north is the worst. These plants may require a watering later on in the growing season, but at present they will do alright. The climate of Ireland is suited to newly-planted trees in autumn and spring, the air being more humid and damp than in England.

By the end of the month you may prune and attend to climbers on sunny walls. Cut away any shoots which are mildewy or which have flowered, and leave only last year's growths. Now, of your young growths select the ripest, and remove any which are unripe and pithy. Remove any frozen or dead ends of these rods, and lay the rest of the rods in against the walls. Do not simply put them straight up or along, but give some a bend to try and encourage the back eyes to break into growth by checking the rush of sap. The eyes at the ends of the rods will be the first to push into growth; try and get an even pushing of all the eyes. Leave all the other plants to be pruned until later on.

## Roses.

By the REV. JOSEPH H. PEMBERTON, Romford.

A FRIEND has called my attention to an article on roses by Dr. O'Donel Browne in your issue of January, wherein the writer quotes me as saying—"As for Teas, they will be a dead race in five years." I am not quite assured of the accuracy of the quotation, but certainly the old-fashioned, Tea-scented roses, such as *Madame Bravy*, *Catherine Mermet*, *Devoniensis*, and *Souvenir de Paul Neyron*, are on the decline. This is due, in the first place, to deterioration. All highly-bred varieties deteriorate sooner or later—witness *La France*, *Maréchal Niel*, and nearly all the Hybrid Perpetuals of the sixties and early seventies. But there is another reason for this decline—the interbreeding of so-called Hybrid Perpetuals, Hybrid Teas, and Teas has caused the classification of roses under these three heads to be one that is purely arbitrary. Why is Mrs. Edward Mawley called a Tea and Hugh Dickson a Hybrid Perpetual? Why are they not both Hybrid Teas? I cannot tell—can anyone? It may be that raisers are led to classify a seedling with an eye to commerce. If a raiser thinks it will sell better he calls it a Tea, or Hybrid Tea, as the case may be; and now that the demand for hardy free-flowering roses for the garden is greater than for solely exhibition purposes, the lists of new introductions show clearly that the Tea, like the Hybrid Perpetual, is a class that is diminishing.

To attempt in these days to classify roses under the heads of Hybrid Perpetuals, Hybrid Teas and Teas, will certainly end in confusion. Even for a raiser to state positively that a given seedling obtained by cross-fertilisation belongs to one of these three classes is almost an impossibility. We are too far removed from the original cross. He may take the greatest possible care in the selection of parents; he may test them by selling through the second generation, and, notwithstanding all his pains, his hopes may be shattered by reversion. He may think that he is breeding from pure Teas when all the time one may be impure; that is to say,



although it has Tea perfume and all other characteristics of a Tea, yet it was not really one; it lacked the factor in the absence of which its true character could not develop. Instances of this are known in the case of two white rabbits, some of the progeny of which were black and others grey. So, in like manner, two white roses may produce red or even yellow roses, the result being due to the interaction of factors existing in the sexual cells.

That two distinct varieties can be obtained from the same hep should cause no surprise, since it is the seed that is the unit, not the hep. It is common knowledge that seedlings raised from seed contained in the same hep vary in growth, habit, colour, and perfume. When the sexual cell conveyed by the pollen of one parent meets the sexual cell in the ovum of the other, and the two gametes are yoked together, the seed unit is formed, and whatever factor is dominant in the one or the other will prevail. In one seed this dominance may lead to the production of a rose allied to the Hybrid Perpetual, in another seed to a Tea. The factors latent or dormant in the gametes affect their offspring for generations to come.

## Sweet Peas.

AS a lover of this most popular and useful flower I write a few lines chiefly on the selection of suitable varieties for exhibition and garden decoration. Before naming a few of the best varieties I would like to say a few words on the preparation of the ground for the plants. They should be raised by sowing in pots and boxes at once and placed in a cool greenhouse or frame, giving plenty of air when the weather is mild, after the plants are an inch high. There are many fancy composts used by growers for filling pots and boxes, but I find little difference in the plants if watering and airing have been properly done. I know two first-rate growers; one uses pieces of sods about one and a half or two inches in diameter and the same deep for each plant, scooping a hole in the centre three quarters of an inch deep for each seed, and placing the pieces close together in boxes, so that a large number of plants can be raised in a small space, then each plant lifts out with a fine ball of soil when planting out in April. The other grower uses a mixture of loam broken fine two parts, and one part leaf-mould, for filling pots and boxes; he also places over the moss used in covering drainage a good layer of sweetened horse manure passed through a half-inch riddle. Plants are equally good whether raised in pots or turf, so that you see the compost is not very important, other cultural details being right.

PREPARATION OF THE GROUND.—It would save us much hard work if Sweet Peas could be grown fit to win prizes without deep trenching and heavily manuring the ground, but we all know that it cannot be done, and experience plainly shows that rarely are the flowers good and the stems long unless the plants are highly fed, and the soil well prepared in the early winter for preference. For each row of Sweet Peas, open trenches two to three feet wide and the same deep; if the soil is good for that depth take off the top two feet of soil and

give a heavy dressing of dung to the opened trench and dig deeply in. If you have a shallow soil take off the good soil and barrow away the bad soil underneath to a depth of two or three feet. Then break up the bottom of trench and fill with good soil (chopped sods that were cut and stacked for twelve months are best, but difficult for many to get) and well-rotted cow manure, three parts soil to one of manure, well mixed. When filling in the trench give a dressing of bone-meal, say one half-pound to yard run of trench, and a like amount of superphosphate and sulphate of potash, keeping the latter near the surface, which should be left rough to be acted on by the weather, frost, &c.

VARIETIES.—It is difficult to give a list of new and old varieties and keep within the limited space available in IRISH GARDENING, but the following twenty-four will be found all first-class sorts, good alike for exhibition and garden decoration:—Maud Holmes, deep crimson, the best of this colour; Elfrida Pearson, improved Mrs. Harcastle Sykes; Thomas Stevenson, orange, the best of this colour; Hercules, improved Countess Spencer; Etta Dyke, best white; Clara Curtis, best deep cream; Nettie Jenkins, a good lavender; Elsie Herbert, white pink-edged; Nubian, a good maroon; Mrs. C. W. Breadmore, cream-edged pink; Earl Spencer, good orange, requires shade; Mrs. Hugh Dickson (new), cream pink; Constance Oliver, good cream pink; Tennant Spencer, good rosy mauve; Vermilion Brilliant, fine Scarlet Spencer; Captivation Spencer, a nice wine colour; Doris Usher, a grand deep pink or cream; Flora Norton Spencer, clear pale blue; Mrs. W. J. Unwin, white-flaked, orange scarlet; Barbara, new orange, does not burn badly; George Herbert, a large rose-carmine; Florence Nightingale, lavender and rose edge; Afterglow, violet-blue and rose; Sterling Stent, salmon orange.

The above are all Spencer varieties. When giving a list of sorts in IRISH GARDENING in September, 1907, I little thought the old grandiflora varieties were so soon to go out. W. T.

(To be continued.)

## A Winter Stroll.

By R. M. POLLOCK.

WALKING round the Botanic Gardens, Glasgow, on the 20th of January one finds quite a host of interesting plants in flower. We have to commence with several Irises. *Iris stylosa*, a native of Algeria, and its white variety, are both flowering as if in defiance of all winter wind and rain. Among the dwarf Irises the lovely yellow *Danfordiae* is open, and seems to enjoy life in the warm border outside the Cactus House. In the same border we have *I. Vartani*, which, next to *I. stylosa*, is the earliest of all. This Iris belongs to the same section as the well-known *I. reticulata*, which we will see next month. The flowers are a delicate lavender blue, with yellow and dark lilac markings on the falls, about six inches high, and having grey-green, four-angled leaves, armed with sharp points. *I. reticulata* var. *sophenensis* is almost over, but *I. persica Tauri* and *Heldreichii* are still throwing up



sturdy, purple flowers. Last, but not least, the beauty of the group is *Iris histrioides*, with flowers of a lovely blue, with slight yellow markings, apparently a strong grower. Old friends, such as the yellow Jessamine and the Christmas roses, are doing their best. The former looks very fresh, owing to the mild season, but the Christmas Roses have suffered from mud splashing; their stems are too short. Nature should have provided these with longer stems for wet countries! The Winter Sweet (*Chimonanthus fragrans*) is this year in wonderful flower. It is a native of China and Japan, and flowers against a wall. The flowers are a dull yellow, small, and borne close to the stems, and very strongly scented. One of the winter-flowering Honeysuckles (*Lonicera Standishii*), has also surpassed itself, and is a mass of small, white flowers on almost leafless stems, sweetly perfumed and very pretty. Another Honeysuckle, *L. fragrantissima*, is also in flower, but not in the same profusion; it flowers with its foliage, so that the flowers are not as remarkable. In the damp bog-bed we have the curious little *Rhododendron parviflorum*, which all through the summer looks half dead and miserable, now covered with small, purple flowers, and makes quite a bright show. With it we also have *R. dahuricum* with purple flowers. Both these are natives of Siberia and Manchuria, which accounts for their flowering during the winter. Here also we have some of the Heaths, *Erica hybrida*, the white Mediterranean Heath and the white form of the German Heath, *E. carnea* var. *alba*. Elsewhere *Crocus Imperati*, which, delicate and fragile though it is, pushes its way through the soil and opens a pale lilac flower with soft fawn backs to the outer petals. We have also *C. Fleischeri*, a species from Asia Minor, with small, narrow white flowers and an orange centre, which makes a nice contrast with *C. reticulatus*, which has pointed, narrow outer segments, pale buff with dark lines, the three inner segments being pale lilac. *C. Sieberi*, a Grecian species, is of a stronger constitution, with flowers of a beautiful shade of lilac with an orange centre. All these are quite hardy, but they are easily broken by the wind or heavy rain, and should be planted in shelter. Blue Primroses and some of the *Aubrietias* are peeping out; poor things! they think it's time for Jack Frost to have paid his visit and gone. They will know all about it later on—so will we! We must not forget the Winter Aconite (*Eranthis hiemalis*) and the Snowdrop. *Primula megasifolia* is a pretty little member of this family, with pink mauve flowers, rather inclined to hang and show a deeper colour at the back. The name is derived from the leaves, which resemble in miniature those of *Saxifraga Megasea*. *Coriaria nepalensis* is a curious shrub from the Himalayas, with long, arched leafless branches, covered all over at regular intervals with short hanging racemes, composed entirely of stamens with bright red anthers, which give the plant a very remarkable appearance. The Witch Hazels are now quite gay with their claret-coloured calyces and yellow strap shaped petals; the showiest of all is the new *Hamamelis mollis* from China. Another shrub, of dwarf habit and evergreen, is *Sarcococca humilis*, mentioned in January number of IRISH GARDENING, which is now in full flower. Unlike

most flowers, here we have no brightly-coloured petals, but the attractive portion is due to the white stamens which are in clusters in the axils of the leaves. These are the male flowers, and the female ones are inconspicuous, small and green, hidden between the leaves. The flowers are very strongly scented, and even a small spray will scent a whole room. In appearance the plant much resembles the common Box. As well as the ordinary Christmas Roses we have other species of the group, and among them *Helleborus corsicus* or *lividus*, which, when well grown and in a suitable position, makes a very good subject for winter flower. The branching pale green inflorescences, measuring in some cases a foot and more across, look very handsome with the smooth, green foliage. The leaves are large, divided into three, each sharply toothed, with the leaf-stalk and mid-rib or vein almost white. If this plant had no flower it would be well worth growing for its foliage alone. *Helleborus orientalis*, *guttatus*, *atrorubens* and others, commonly known as the Lenten Roses, are all now in full flower. Unfortunately these flowers, which range in colour from pure white to pink, cream and purple, will not last with any degree of certainty in water. This is very disappointing, as they look so suitable for indoor decoration. Some say that splitting up the stems prevents fading, others that cutting little knots in the stems will do it, but neither of these are certain remedies, and if any reader can offer a solution to the difficulty I am sure the Editor will be pleased to publish any information on the subject.

This article goes to print a full week before the end of the month, otherwise our list would be even longer.

## Notes.

*PETASITES FRAGRANS*, "The Winter Heliotrope, producing in mid-winter spikes of Heliotrope-scented flowers." This is the usual description of the plant. A true description yet may be a misleading one for the amateur. Seeing the common Coltsfoot well established on a bank, with its bright yellow flowers open in the sun, one may think that it is quite as showy as some of our garden plants, and yet the veriest amateur would not dream of bringing it into his garden. Yet the Winter Heliotrope is just a cousin of the Coltsfoot, and has a similar root; both are "beastly weeds" in a garden, and both difficult to eradicate once they get a footing—in fact, the Winter Heliotrope has been known to run underneath foundations of walls. A wild place, where it has no earthly chance of entering the garden, should be its home; then its sweet-scented spikes of flower will be useful in January and February.

*DAPHNE MEZEREIFUM* is a well-known shrub, useful for town or country; both white and pink forms are already opening a few of their sweet-scented flowers.

*DAPHNE LAUREOLA*, known as the Spurge Laurel, is an evergreen bush growing 3 to 4 feet high, and is now in full flower. If one passes a bush in the evening or early morning one gets its delicious scent even when some yards distant, but during daytime it is scentless. *D. pontica* is a similar looking evergreen with larger leaves, but, while the former is as sweet as violets, the leaves of *D. pontica* have a vile smell—"PADDY."

## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.



**A**S a rule February is a difficult month for out-door work. We have often to contend with snow or heavy rain, therefore every available opportunity must be made use of in completing the planting or any alterations which are to be done this spring. Any repairs to edges of walks, whether grass or box, can be made good, and walks should be cleaned and rolled. The garden throughout must present a clean and tidy appearance. When heavy rains make it impossible to proceed with out-door work, stakes can be prepared and new brooms made; from the old ones useful hook-head pegs can be made for layering Carnations, Verbenas, and many other plants used in summer bedding.

When weather permits all climbers can be thinned out, removing all dead and weakly wood, securing all strong and healthy shoots where they are required to give effect later on. The plants should then have a good dressing of decomposed manure worked in at their roots, which will greatly assist them. Clematis of the Jackman type

can be cut back, as they flower freely on the young growths. Dahlias and *Salvia patens* can now be started in a little heat, so as to get cuttings for summer planting and autumn display.

Annuals which require a genial temperature to start them should now be sown in pans or boxes, so that when seedlings are up they can be placed in full light near the glass, to prevent them damping or becoming drawn.

In the flower garden and rockeries many interesting plants will now be in flower. The Winter Aconite (*Eranthis hiemalis*), even in partial shade, will clothe the ground with ample foliage and bright yellow flowers. Snowdrops and some of the early Crocuses will also be in bloom. *Helleborus niger* and Lenten Rose will also be gay, and *Iris stylosa*, placed at the foot of a wall or in a sheltered position facing south, will also be in flower, and the charming little Daffodil, called *Narcissus minimus*, will now appear. The Tenby Daffodil and W. P. Milner are also well advanced, and remind us that spring is again with us.

Now that preparation must be made for the coming summer, hotbeds should be made for propagating all necessary plants for bedding out at the end of May. Autumn-sown seedlings should now be pricked out in cold frames and encouraged to make roots and strong growth. Pentstemons which were propagated last autumn can now be planted where they are to flower; they are a great addition to the flower garden, whether planted in groups in the herbaceous borders or for beds

of distinct colour. The early sweet peas will now be advancing, and will require small stakes or supports. Work some fine soil in amongst the little plants to strengthen them.

### The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath,  
Kilruddery, Bray.

**E**ARLY VINERIES.—In many gardens early vines are by this time well advanced. It will be necessary to maintain an atmospheric temperature of not less than 60 degrees at night during mild weather. If you gave your borders a thorough application of tepid water when starting them little will be needed for some time, only be sure to keep what gardeners call a growing or humid atmosphere, and until they are flowering damp down three times daily. If the canes are tied about four inches under the wires, you need not attempt tying the young growth into its permanent position until you are thinning the berries. When shoots are strong and heavy they may, perhaps, require some support, just a loose tie to keep them from falling or slipping off at the base will be sufficient. Then rest content for a few weeks by keeping tender shoots free of the cold glass and stopping the shoots at the second joint above the bunch. Get on with washing successional vines. You cannot be too particular about taking off loose bark and washing the rods properly, especially if you are unfortunately troubled with mealy bug. I need not enumerate the various methods for dealing with this horrid pest, for every grower does or ought to know how to treat it. I will simply urge every one to use all possible means to eradicate this unwelcome pest before the growing season or warm weather commences.

**NECTARINES AND PEACHES.**—If you notice any sign of buds falling off early peaches examine the borders at once and try to ascertain the reason. When this trouble arises you will generally be able to trace the cause to insufficient water at their roots, and neglect in this matter may deprive you of a crop. Now that the days are lengthening, all peaches and nectarines should be ready for growing. When the early trees commence flowering the atmosphere must be kept somewhat drier. Take advantage of bright days to assist fertilization by every means in your power. Attach a rabbit's tail to one end of a short stick, then go carefully over the blossoms with it, giving them light touches when the pollen is quite dry and sun shining about mid-day. Make this your practice and it will greatly help in securing a good set of fruit.

**FIGS.**—Whenever possible one house ought to be devoted to fig cultivation. Most families are fond of figs, and medical men often recommend good ripe fruit to their patients. Without doubt fig trees will flourish in the open garden if grown on a wall with a south aspect, but with our fickle Irish climate it is only a chance whether the fruit ever comes to maturity. Confine their roots under glass in small beds, and give plenty of good feeding when the fruit is formed.

**WINTER SPRAYING.**—For hardy fruit all growers recognise the necessity for spraying, and in many places I know it is systematically carried out with satisfactory results. Spraying kills all moss or lichen and also many insects. *American blight.*—If you have this tenacious garden enemy established on your apple trees I fear that it will give more labour than ordinary



spraying with Concentrated Alkali or V. fluid. You must use brushes and rub the fluid well into the bark and all over the strong shoots and spurs, then with care it can be banished.

**GENERAL REMARKS.**—Fill up gaps in strawberry beds with strong plants out of four or six-inch pots, as vacancies spoil the effect when viewed from the walks, and then give your beds a mulching of half-decayed manure before the growing season, as it prevents the bed from becoming too dry, and also assists in keeping the fruit in a clean condition.

## The Vegetable Garden.

By WM. TYNDAL, Horticultural Instructor, Co. Kildare.

**D**URING the past month it has rained so continuously that it has been almost impossible to get the winter's work of trenching and digging completed, as it is a bad practice to work soils when in a wet condition, especially those of a clay nature. Immediately the weather permits, get all your vacant ground trenched or deeply dug, so as to leave as small an amount of work as possible to be done in the busy time, now near at hand, to the vegetable grower. If you have not already sent your order for seeds do so at once, and any of the firms advertising in IRISH GARDENING can be relied upon, only remember that good seed cannot be grown and sold at a low price, so that cheap seed is often dear seed in the end. Plants in frames on hotbeds, in which such vegetables as potatoes, carrots, radishes, lettuce, &c., are being grown, and cauliflowers, Brussels sprouts, onions, leeks, and half-hardy annual flowers being raised, will require careful attention to be paid to airing and watering; it is too often done in a careless manner. Give air to such frames on fine, mild days, before the temperature has very much increased, then gradually give more as the day gets warmer, but do not give full air at once, as many growers do, thereby causing a chill. Close early to store sun heat, and if the glass is covered with mats it will increase the protection and keep the plants warmer, especially if we get frosty nights. As the plants raised from seed sown last month become fit, single them out into other boxes a couple of inches apart. The compost for filling the boxes may be the same as that used for sowing the seed, except omit the sand and mix about one and a half gallons of fine bone-meal to each barrowful of soil, and again, over the leaves covering the drainage put a layer of sweetened horse manure, passed through a half-inch riddle, and make firm, then a couple of inches of compost pressed firm. After this preparation, no difficulty should be experienced in lifting the plants with good balls of soil attached to the roots, and such always start growing freely, especially those of the Brassica family, as cauliflowers and Brussels sprouts. If large leeks are required, put a few of the strongest into four-inch pots, potting deeply.

**TOMATOES.**—Pot off singly into three or four-inch pots, and place on shelves near the glass, so as to expose them to good light to prevent them from becoming drawn and weak. When ready re-pot into six inch pots, using more loam and reducing the amount of leaf-mould in the compost. When the plants have got over the check of potting, give air on all favourable

occasions. As the earliest and finest fruit is always got from plants grown on single stems, Cordons are recommended grown in boxes, three plants in each box, two feet long, fifteen inches wide and deep.

**CELERY.**—Towards the end of February is a good time to make a sowing of celery for early use. A frame on a good hotbed is the best place for raising the plants; here they will be close to the glass and not drawn up weakly, as often happens if the boxes are placed in greenhouses. Sow thinly and cover lightly.

**FRENCH BEANS.**—Make a couple of sowings during the month in 10-inch pots, putting 8 or 10 beans in each pot. Over the drainage put some decayed manure, and fill with good rich soil. When the beans are 6 or 8 inches high put some light dead spruce branches, or those of birch, around the sides of the pot to keep the plants from falling about. The stakes may be about 2 feet high if a dwarf variety, as Canadian Wonder, is grown; but I prefer a climbing variety, as Tender and True, which gives a heavier crop over a longer season, and will require stakes 6 or 7 feet long, or, better still, train the plants on a wire trellis.

**PEAS.**—During this month, if the weather is suitable, get in some early variety of pea, as Pilot or William I., selecting a border facing south and well sheltered. The ground should have been manured and turned up roughly early in the winter, giving a dressing of lime. On account of the ground being so wet this year, I would advise covering the peas with fine light soil, as siftings from the potting bench, mixing it with a little lime and soot. Any one having a dry, well-sheltered border facing south should sow a small amount of Gradus pea, a grand early marrowfat, growing 4 feet high, but not so hardy as the round-seeded sorts. Peas raised in boxes, as advised last month, should now get plenty of air, so as to have them strong and sturdy when planting out in a month or six weeks, if the weather permits.

**BROAD BEANS.**—These can be raised like peas in boxes and then planted out. Treated this way, the plants commence bearing much earlier. Fine pods are obtained, while there is no fear of the failure of the crop from bad weather causing the seed to decay. If such means are not available, a sowing of one of the long pod varieties, as Exhibition Long Pod, should be made in the open ground. Sow the beans in a double line 6 inches apart and the same distance in the line, and cover 3 inches deep.

**POTATOES.**—A small sowing of these can be made towards the end of the month on a warm, sheltered border in front of glasshouses or at the foot of a south wall. Use some light soil for covering the sets, which should have been sprouted, as recommended for forcing last month. Look over all seed in boxes, and disbud to one or at most two growths on each tuber, unless they are to be cut before planting. Give plenty of light and air to get strong sprouts.

**SPINACH.**—Make a sowing of Victoria round spinach in the middle of the month on a warm border, and continue sowing at intervals of three or four weeks for succession.

**PARSNIPS.**—Any time during the month that the ground permits this crop may be sown on ground deeply dug and heavily manured for a former crop; the roots fork or branch if the ground is manured the same season as the seed is sown. Sow in lines two feet apart, though some prefer one and a half feet; draw lines one and a half inches deep, sow thinly, cover in and press the soil firmly.

**SPRING CABBAGE.**—In fine weather hoe between the lines of plants, first giving a dressing of nitrate of soda, a teaspoonful for each plant; this causes the plants to grow rapidly and heart quickly.



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# Irish Gardening

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ADVANCEMENT OF HORTICULTURE AND  
ARBORICULTURE IN IRELAND

MARCH  
1912

## Notes on Gardens and Orchard Work in America.

(Continued.)

By SIR F. W. MOORE, M.A.



IT is only twenty-five years since the city of Rochester embarked on a system of public parks, owned and controlled by the city, but so much progress has been made that Rochester is now one of the leading park cities in the United States—in fact its proportion of 12 per cent. of parks and playgrounds of the total city area is higher than in any other city in the United States. An enactment was obtained permitting the city to spend £60,000 as a beginning on the acquisition of lands for parks and park drives; further, to spend a sum not exceeding £1,000 per annum for the employment of a surveyor and assistants. A board of commissioners was appointed, not necessarily composed of members of the corporation only, but including leading citizens who were interested in the project, and

so a start was made. Out of the original fund some 550 acres were purchased, and four of the large parks were started—viz., Genesee Valley Park, Highland Park, Seneca Park, and Maplewood Park. Other land was purchased later, and citizens, stimulated by the good results of the work being done, have presented over 600 acres to the commissioners, including 484 acres which now form the Durand-Eastman Park, so that there are this year over 1,500 acres divided into parks, playgrounds, and drives, and they are still being added to. All this was not attained without a hard fight. There was much

opposition from the selfish, the false economist, and the man who refuses to look beyond to-day, as well as from those who were honestly afraid of committing a then comparatively small city to such a huge annual expenditure as the upkeep of such a park system entailed. Many of the last-named are now among the most enthusiastic supporters of the commissioners. These commissioners are not paid any salary, but they work and persevere, and have managed to overcome all obstacles, to please most of the citizens, and to give the latter something to be proud of, and of which they can legitimately boast. Since the initiation, Mr. C. C. Laney has been superintendent and engineer, filling this important position to the complete satisfaction of every one. Mr. Laney is one of those quiet enthusiasts who knows his work thoroughly, and does his work thoroughly, and contrives to impart his enthusiasm to all concerned in his branch of administration. He is fortunate in having as an assistant Mr. John Dunbar, and in the Vice-President Mr. Wm. Barry, of Elwanger and Barry's Nurseries, a gentleman to whose knowledge of plants and trees and to whose generosity and hard and devoted work much of the success of the Rochester park development is due, Mr. Laney has a staunch friend and supporter. To understand why and how citizens ungrudgingly spend over £30,000 per annum on parks, playgrounds, park drives, and street planting, as the citizens of Rochester now do, one must grasp the part these institutions play in the life of the people of all classes. Here again climatic conditions are an all-important factor. Shade is wanted during the

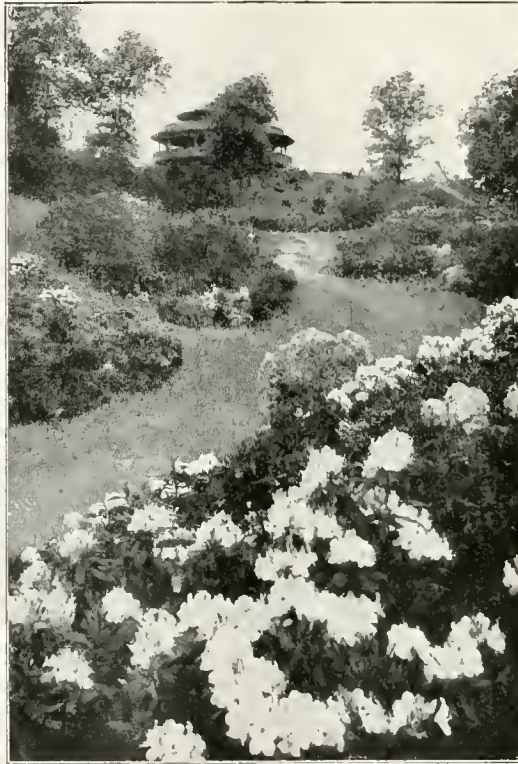
heat of the day—shade from a powerful and continuous sunshine—hence the avenues, in some instances miles long, planted with shade-giving trees. The evenings following these hot days are warm and delightful for outdoor recreation, hence the parks are crowded, and every unobjectionable form of amusement is provided for the people. The parks are well lighted; there are open-air concerts, dramatic performances, bands, plenty of sitting accommodation, and occasionally large fêtes and fireworks. In Rochester the park commissioners own a park band, which is one of the most celebrated municipal bands in the United States, and which is often sent to other cities. For entertainment during the daytime there are golf courses, lawn tennis grounds, baseball grounds, athletic grounds, swimming pools, a zoological garden, boating houses for boats, and a splendid river to row on. These are not trivial matters. All is done well; the courses and grounds are well kept; there are professionals to teach the various games, and to supervise, and all is free!

I could write much more on this subject but space must be reserved to say something about the parks themselves. Rochester is fortunate in having its parks nicely situated, and with fine views and bold landscape effects. The fine river is a great asset to the Genesee Valley Park, in which park there are also some splendid old trees. A notable feature is a collection of 480 named species of *Cratægus*, and a large number of still undetermined species, planted in broad borders along one of the main drives. Close to another drive is a continuous shrubbery planted with native plants only. Highland Park may

be considered as the botanical and horticultural park, as in it there are no large playgrounds. It is given up to collections of trees and shrubs and herbaceous plants, and in it are the conservatories, which are filled in season with different flowering plants. The park is situated on high undulating ground, with a fine view over the surrounding country from the pavilion. The collection of trees and shrubs is exceptionally rich, rivalling the Arnold Arboretum at

Boston. The Pinetum is one of the best features, a fine broad curving road passing through it, so that the plants can easily be seen and studied, and as the collection is very complete and accurately named there is every facility for study. The Genera *Quercus* and *Berberis* are particularly well represented, and there is here one of the finest collections of Lilacs in the world. In the city itself one of the most remarkable features is a long avenue with a broad central space planted with deciduous Magnolias, a glorious sight when they are all in flower.

Visitors to New York city are generally familiar with the Central Park at the end of Fifth Avenue—a large



RHODODENDRONS AT HIGHLAND PARK,  
ROCHESTER

well kept space with broad roads, good trees, a lake, and a zoological garden, readily accessible to the citizens. Visitors to that city will also recognise how impossible it is to extend the park system where land is so scarce and valuable that skyscrapers had to be invented to secure office and dwelling space. In any case the New Yorkers have grasped this fact, and they have gone further afield for their parks, for these institutions American cities must have. Bronx Park, some ten miles from central New York, is one of the localities in which park activity is being



displayed with admirable results. Bronx Park contains some 600 acres of park land, and of this 250 acres are reserved for the New York Botanical Garden. Close to this is the celebrated Bronx Park Zoological Gardens. From the park the Pelham Park-way opens out, three miles of double roadway with plantations between, and fine plantations and groups of shrubs at each side. One roadway is reserved for motors only. Pelham Park-way is 600 feet wide throughout its entire length, and when fully developed with suitable clear-

There are in the garden proper seven miles of roads and paths, and four additional miles are now under construction. The garden, as its name implies, is not a Government garden. It belongs to New York, and is run by New York. It is managed by a committee, a body of independent and intelligent gentlemen, many of them of high scientific attainments, who meet periodically and consider the various garden reports. Dr. Britton is the director, he being director in every sense of the word, being responsible only to his committee, who look



PUBLIC CONSERVATORIES, THE NEW YORK BOTANIC GARDENS

ings, expansions and plantings, it will be a noble addition to the attractions of outer New York.

Through Bronx Park a river flows with pretty peeps, the roads being, as usual, broad and well kept, and in places there are fine trees, also open spaces with lawns and flower beds and groups. The Botanical Garden is quite unfenced from the rest of the park, consisting, as before stated, of a section of 250 acres running to the public road and to the railway station, where there is an iron railing along the railway track. Vehicles and motor cars have free access to the garden, broad roadways suitable for this class of traffic running through it.

with sympathy and approval on his plans for further developments.

Dr. Britton takes a keen and very thorough interest in every phase of activity and work in the garden. He has planned the various developments which have brought the garden from rough woodland, bog, and farm land to its present condition. Dr. Britton's aim has been to preserve as much of the original native flora as possible, to develop the natural beauties where this could be done, to preserve the river, and to utilise the bogs. This he has succeeded in doing in a very interesting manner. Since the garden was started in 1898 splendid museums, lecture rooms, and offices have been

erected, a magnificent and compact range of glasshouses has been erected, an excellent plant nursery and propagating department has been constructed, and new conservatories are in course of construction, all of which have cost large sums of money, more money than has been spent on Glasnevin Gardens since it was founded in 1794. Despite this large expenditure the endowment fund attached to the garden now amounts to £120,000, and a liberal annual appropriation for the support of the garden is given in addition. Happy garden! The collection of trees and shrubs is arranged in groups and natural orders, occupying most of the garden, and as in all American large gardens it is one of the chief features. There are beds in which the plants are grouped in their natural families, and an interesting feature is a collection of hardy plants used in domestic economy—that is, plants which produce food, fibres, drugs, &c. One of the boggy places has been partly excavated, and forms a suitable place for water lilies and aquatics, of which there is an excellent collection. The large conservatories occupy an elevated site in front of the museum building. They are arranged as three complete sides and part of a fourth side of a quadrilateral, the missing part of the fourth side being an opening to the plot of ground enclosed by the houses, and in this plot there are two large tanks for *Nymphæas*. The front face has a circular central portion—the palm house—from which is a wing on each side 100 feet long by 33 feet wide and 30 feet high. At the end of each wing is a square house, from which again the lateral houses run, so that there is inter-communication through this great range of houses from end to end. These conservatories are built of iron and are of a type which, in our country, would fill a gardener with dismay and horror were he called on to grow plants in them.

The inmates bear testimony to the suitability of these structures for the climate of New York. I can give the highest commendation to the excellent cultivation I saw there, and to the health of the plants. The Orchids, which are grown in one of the large wings, were very healthy; there were some fine specimens, and a group of *Vandas* was one of the best bits of plant-growing I saw in America. To my mind the most effective group was one of *Musas*, *Strelitzias*, and *Anthuriums* forming a grand, healthy and imposing mass of tropical vegeta-

tion, all in perfect condition. Much attention is now being given to the *Cactaceæ*, of which there is a fine collection containing many noble masses. A sum of £3,000 per annum has been set aside by this garden and allied gardens to enable a thorough survey of this family to be made. Mr. Nash, the Curator, deserves the highest credit and praise for his skilful cultivation, and for the cleanliness and order which prevails.

*(To be continued.)*

## Pruning for Apples.

By C. B. PIKE, Baskin Hill Fruit Farm, Cloghran.

THIS is an article for beginners, who generally start fruit-growing with the idea that pruning is a very difficult operation and only learnt after years of experience. In reality it is extremely easy, and to be understood only requires that the fruit-grower should learn the habit of growth of an apple tree, and the reason why he should prune at all. We will start with a maiden tree (or one year old) on the Paradise stock as purchased from the nursery. If this is planted in good, well-tilled ground, such as is generally found in a garden, and left untouched, it will teach us a great deal. As received it was, perhaps, three or four feet high and straight, like a whip, with little buds all up the stem. At the end of a year these little buds have changed considerably. They are no longer little buds but nice, plump, grey little fellows, most pleasing to the eye of a fruit-grower, for they are fruit buds; one or two of them have probably sprouted, and our tree has some rather ungainly side branches in consequence, and these side branches have the little pointed leaf buds; also the whip-like tree has grown a little taller, and on the new growth are also the leaf buds. Now, the fruit buds in the following summer would, bar accidents, produce fruit, and the leaf buds would produce leaves. In another year the leaf buds on the side branches and other new growths would have changed into fruit buds; further new growth would be made, and we should have apples every year; but—and here comes the reason for pruning—the tree would be ungainly and ugly and not fitted for a cultivated garden. Therefore you will see that we do not, or rather should not, prune a tree to get apples but to

get a shapely tree, pleasing to the eye and so grown that we can get the maximum of fruit-wood without overcrowding. It is a curious thing that nearly every gardener has his own way of pruning, and is as a rule quite intolerant of any one who differs from him. The reason is, I think, that every one has had to learn in the best way he could. There has been no central authority, no primer that could be relied on, but, instead, many books published privately, and each one teaching something quite different to the other. In our forefathers time it was fashionable to train apple trees into all sorts of shapes, called vases, pyramids, &c. To-day espalier trees are still found, especially on walls, and all these tax the clever man and confound the ignorant, and anyway are outside the scope of this article. These artificially-formed trees take much skill and knowledge if a decent crop is to be obtained and are not to be thought about by the beginner, but they are the reason of the legend that pruning is so difficult, and will illustrate my meaning when I say that at first we prune in order to shape our tree, and not to get apples. This, of course, is speaking generally, as there are some apples that require special treatment, but are the exception to the rule.

We must go back to our maiden, or one year old tree, and consider how to cut it, or prune it, so that it will please us in our garden. If we leave it as a whip and only "cut in" any of the side branches it will be a cordon and require special and somewhat artificial treatment, which we will leave alone for to-day, as, although it is one of the most profitable forms of fruit-growing, a beginner should wait a couple of years until he has had full opportunity of studying his apple trees in growth.

We will, therefore, cut our tree down to about a foot or eighteen inches from the ground. This action will throw back the sap, and force the lower buds into growth, and if the tree is in good soil it will throw out three or more branches, which should at the end of a year be three or four feet high. These in the autumn or winter should each be cut back two or three feet, leaving about one foot of the new wood, and the same thing will happen, each branch will send out three or more new branches, and so we shall have nine. After this, if you are wise, you will leave your tree alone, or nearly so, only cutting right out any branch that

crosses another or that points inwards to the centre of the tree, or any one that appears to be crowding another or better branch, as all branches will require plenty of light and sun. You will very probably buy your tree as a three year old from the nursery, where it has been formed or shaped for you, in which case you can plant it in your garden, keep it free from weeds, and after the first year gather apples, in fact if you will cut out the ingrowing and crowding branches, and thin the apples themselves, not letting the bush over-fruit itself, it is all you need do.

From this I hope that you will understand that if, on receiving the tree or bush (the latter I have had in my mind) you cut back the nine leading branches, you will get twenty-seven or more branches the following summer, and if you again cut back these twenty-seven in the autumn, you will then get—well, apple trees like most of your neighbours—trees, but no apples.

MORAL—Do not over prune when your apple tree reaches a bearing state.



#### MAGNOLIAS.

MAGNOLIA GRANDIFLORA is a familiar evergreen wall plant, possessing several deciduous relatives of the highest order of merit, which are even now opening their flowers. *M. stellata* is the first to bloom, and a bed of this lovely shrub forms a conspicuous object on any lawn, the starry flowers being of a dazzling whiteness. In exposed localities it is safest to protect it at night by a temporary shelter of stakes and canvas for fear of frost. *M. conspicua* forms a small tree, and is a grand spectacle when covered with its snowy white blooms. *M. soulangeana* is a hybrid between *conspicua* and *obovata*, retaining the size and shape of the former, but the purplish colour of the latter parent. A sheltered position should be selected for them on account of their early-flowering propensities. Perhaps the scarcity of Magnolias in gardens may be accounted for by their being rather difficult to transplant. The roots are extremely sensitive and liable to rot if moved in autumn, if even slightly injured. The proper time for transplanting is spring, just as growth commences, lifting with a ball of earth, and with a little attention afterwards, as regards shading and watering, success may usually be guaranteed. They like an open, sweet soil, trenched beforehand and enriched with leaf-mould and loam. Layering is the best mode of propagation. Seeds require to be sown as soon as ripe, for, as in all the Magnolia family, the seeds lose their germinative power if kept till spring. In some Irish gardens the two new Japanese kinds, *M. Watsoni* and *M. parviflora*, are doing well; a striking contrast is made by the claret-coloured stamens and the pure white flower of *M. parviflora*.



## How to make a Moraine.

By REGINALD A. MALBY.

CONSIDERABLE interest has been taken recently in that adjunct of the Rock Garden—The Moraine—and it has been found that many hitherto difficult plants to grow in our Alpine gardens thrive there in quite a surprising way.

It may be of interest to relate a simple way of constructing a highly efficient moraine at an insignificant cost.

Before proceeding to the technical details, however, it will be well to glance at the conditions prevailing in a natural moraine, and try to learn therefrom the special points to bear in mind, and if possible to reproduce.

It will be readily seen that the piled-up heaps of stone detritus which one finds at the lower end of every glacier afford ample drainage, since they are usually on sloping ground and consist of pieces of stone of all sizes down to small grit.

Through this mass of debris, during the growing season, water is constantly passing from the melting snow and ice above, thus not only keeping the roots of the moraine plants moist but carrying away with it the bulk of the fine particles of stone which may have existed there.

When the season is waning, growth is checked by low temperature, shortly followed by the freezing-up of the water supply from the glacier above, when the moisture in the stones of the moraine gradually soaks away.

During the winter the whole moraine and its contents are wrapped in a thick snow mantle which protects the little plants from any variation of temperature, until the sun again thaws them out the following June or July.

From the foregoing it will be seen that the essential features of an artificial moraine should be as follows :—(1) The sharpest possible drainage ; (2) a plentiful supply of water during the growing season ; (3) some method of keeping the crown of the plants dry during the winter, coupled with comparative dryness of the moraine soil itself.

I started operations by selecting a position in the Rock Garden, fully exposed to the sun, where I could, by digging out the soil, form a trough with the bottom sloping towards one point of the front. This trough was roughly two feet deep, and its sides were built up with bricks and cement until nearly on the



Photo by

[R. A. Malby.]

DRABA AIZOIDES, VAR. DEDEANA  
In Moraine Garden

level with the surrounding rockwork, and then topped with decorative pieces of stone. The whole was then lined with cement to make it impervious to water.

Before this was done, however, at the lowest point of the floor, which in my case was immediately above a bog bed, I inserted a valve which could be opened or closed at will (easily hidden by a piece of stone placed in front of it), carefully covered on the inside with a piece of perforated zinc to prevent choking.

I also arranged several openings along the front at a height of six inches from the bottom.

It will now be seen that if water is allowed to

enter this dish it will rise to the level of the six-inch overflow in front, and something less at the back, owing to the slope of the floor, while if the bottom valve is opened no water whatever will remain in the dish.

Into this compartment I put broken bricks of about the size of one's fist, to the depth of six inches, and upon this a layer two inches or so deep of stones, just large enough to fill in the spaces between the larger pieces, and so prevent the finer soil from sifting in between them and so choking the drainage.

Upon this intermediate layer I put the moraine soil proper, consisting, for the lower stratum, of sandstone chips which had passed through a half-inch or three-quarter-inch sieve, and for the upper, such as had passed the quarter-inch sieve, while to eliminate the very fine particles I put the whole of this through a one-eighth-inch sieve.

To the upper six inches I added the merest trace of well-decayed leaf soil, probably about one part to fifteen of stone chips.

When the compartment was full I placed here and there good-looking pieces of stone, to break the otherwise flat expanse of chips, and near to these the moraine plants themselves nestle.

If we have a stream of water, however small, in the Rock Garden a little ingenuity will enable this to be diverted so as to supply the moraine, and during the growing season the lower valve should be closed, thus allowing the water to rise and overflow at the six-inch outlets, and thence into the bog-bed, while about September this water supply may be discontinued, and by October or November the lower outlet should be opened, and remain so until the return of spring.

In the absence of a water supply hand watering at frequent intervals can be resorted to with good results.

During the winter, to protect the crowns of the plants from overhead wet, sheets of glass may be erected on three or four bent wires in such a way as to intercept the rain and yet allow a constant current of air to pass over them. If the glass is large enough it may be four or five inches above the plant, which entirely avoids any "coddling," and with an occasional cleaning will not cause the plants to "draw."

A very good substitute for sandstone chips is broken brick or, better still, broken tiles, though if lime-hating plants are to be grown all old mortar should be cleaned off the bricks before they are broken.

Upon a moraine so constructed such plants as the following will be found to thrive:—*Æthionema coridifolium*, *Androsace Laggeri*, *A. lanuginosa*, *Anemone vernalis*, *A. narcissiflora*, *Arenaria balearica*, *Campanula Allionii*,

*C. alpina*, *C. cenisia*, *C. morettiana*, *C. pulla*, *C. Zoyssii*, *C. excisa*, *Dianthus alpinus*, *D. glacialis*, *Draba pyrenaica*, *D. aizoides*, *Geum reptans*, *Gypsophila cerastioides*, *Houstonia cerulea*, *Linaria alpina*, *Lychnis alpina*, *Primula integrifolia*, *P. glutinosa*, *P. viscosa*, *P. minima*, *Ranunculus glacialis*, *R. alpestris*, *R. parnassifolius*, *Saxifraga aizoides*, *S. aizoon*, *S. oppositifolia*, *Douglasia vitaliana*, *Edraianthus pumilio*, *Silene acaulis*, *Viola biflora*, *Thlaspi rotundifolia*.

## Moving Large Shrubs

By J. W. BESANT, Royal Botanic Gardens, Glasnevin.

IT often happens in the course of alterations that a large shrub or small tree has to be removed from one part of the garden to another, especially if the specimen be a rare one or particularly good of its kind.

In the case of specimens growing in soil naturally conducive to the formation of fibrous roots no difficulty will be experienced in moving the plant with a ball of soil attached. Frequently, however, it is found that roots are few, consisting only of a few strong thick ones, nearly fibreless and quite unsuited to sustaining the plant when removed. In such a case preparations for transplanting must be made quite twelve months beforehand. Briefly, this amounts to inducing the formation of a quantity of fibrous roots by root pruning, and is simply a modification of the nursery practice of frequently moving young stock to encourage the formation of a fibrous root system. A trench one foot wide must be opened round the specimen at such a distance from the centre as will leave a ball of suitable dimensions for removal. All thick roots should be severed close to the ball, the trench being carried down till just below the root level. The trench may then be filled in again, adding a quantity of good fresh soil to encourage the formation of fibres during the next year, when transplanting may be safely accomplished the following autumn.

The final stage in the work consists of again opening a trench a little outside the limits of the one previously made, carefully working off the loose soil with a fork until the fibrous roots are reached. Before attempting to undermine the ball it should be tightly bound up with a strip of canvas or stout sacking, against which is laid five or six pieces of narrow boards at intervals round the ball. Ropes must be tied over the boards, one at the top of the ball and another at the bottom, both being keyed up as tightly as possible by means of short sticks. By this means the ball is tightly compressed, and may be cut under without fear of falling to pieces. By tilting the ball to one side a mat partially rolled up may be passed half-way under, the ball being then tilted back in the opposite direction and the rolled portion of the mat pulled through to the opposite side. In this way the shrub may be lifted bodily and transferred to its new home. These directions apply to shrubs capable of being moved by manual labour. Larger specimens require a transplanting machine and preparation accordingly.

The present is a good time to prepare any large plants which have to be moved. Towards the end of March and throughout April, whenever the weather is suitable, small plants of most evergreens may be planted with every hope of success. Windy days should be avoided and a good watering given; this, followed by a mulching of leaves or rotten manure, will keep the roots cool and moist.



## Apple Culture in Ulster.

By J. TUNNINGTON, Horticultural Instructor,  
Co. Armagh.

IT is interesting to note the great strides which the cultivation of fruit has made in the north of Ireland during the past few years. Each season the amount of land devoted to its culture is being extended, and during the present planting season several hundreds of acres of apples have been added to that already under fruit in Co. Armagh alone. Methods, too, are changing, and a more up-to-date system is taking the place of old happy-go-lucky methods which have had their day. Growers now realise that in marketing the fruit careful grading and good packing are necessary for Irish apples to meet competition in the market. The formation of the Ulster Fruit Growers' Association is a step, and a good step, in the right direction.

The apple does well in a situation sloping, if possible, to any point between S.E. and S.W., provided water is not lying within several feet of the surface. Should this be the case, draining will be necessary, as it is certain that as soon as the roots of the trees reach the sour and saturated subsoil, canker will make its appearance and the trees begin to go wrong. It is a moot point which stock is the best to plant—the Crab or Paradise. It is very certain that the Paradise stock—rooting, as it does, near the surface and producing fibrous roots in large quantities—will thrive in soils wherein trees on the Crab stock would undoubtedly fail. Another point, too, in favour of the Paradise is that it is far more amenable to root-pruning when growing wood at the expense of fruit. The broad-leaved Paradise is the best of the various dwarfing stocks, being stronger than the French Paradise. The site of an orchard should have shelter belts at least on the North, East, and N.W., as from these points come the winds which do harm to the trees in spring. The belts should be at a distance of at least twenty yards, as at a lesser distance the roots would impoverish the ground of the orchard.

Maidens, or trees one year from the graft, are the most suitable for planting. These will take to the ground better and become established sooner than trees of older growth, and require no staking. Probably the most suitable form to train the trees is on the bush principle. This will necessitate shortening the growth back to about eighteen inches from the ground. If planted on the Paradise stock they can be allowed twelve feet apart all ways, but if on the Crab or free stocks eighteen feet can be allowed, as on these stocks the trees will not stand such close pruning as they will on the Paradise.

When the ground is marked out and planting begins it is necessary to see the trees are not planted too deeply. Spread the roots out evenly, any broken ones being cleanly cut off with a cut sloping from below upwards. This will cause fibrous roots to form at the apex of the cut. Plant firmly, and leave the ground slightly raised, as it will settle later after rain. Early November is the best time to plant, as there is generally sufficient warmth in the ground at this season to cause roots to form before winter. If the trees are mulched

with littery manure after planting, so much the better. This will prevent evaporation of moisture from the ground should the ensuing summer prove a dry one.

Many young orchards are greatly retarded in growth by being allowed to bear crops of fruit too soon. Not until the fourth year ought the trees to be allowed to carry a fair crop, and indeed no trees at any time ought to be overcropped. If thinned with judgment, the smaller ones taken off can be disposed of, and the fruit remaining will be of finer quality and will bring better prices than a heavier crop of inferior fruit.

Apples succeed best in land that is kept under cultivation, and if planted in grass land it is desirable to keep a circle of two or three yards in diameter free from grass and weeds. This will keep the soil aerated and assist healthy growth.

One of the main points making for success is the selection of suitable varieties for planting, and this requires care. Too often are planters misled by reading descriptions of varieties from catalogues. "Cox's Orange Pippin, the finest dessert apple grown," is often the means of inducing a grower to plant this variety in quantity, but as Cox's is very subject to canker on most soils it behoves every grower to see that his ground is well drained and of a warm nature before he invests money and occupies much land in cultivating this variety. The same holds good of Blenheim Orange and many other varieties. Of cooking varieties, Bramley's Seedling is undoubtedly the most useful as a market sort. Being a robust grower, with an excellent constitution, it succeeds in most situations. Lane's Prince Albert is another variety that does exceedingly well. It is a great cropper in a young state, and is liable to be overcropped if not attended to in regard to thinning the fruit the first few years after planting.

Grenadier is an earlier variety, not such a strong grower, but one that has proved itself a useful market variety, and is worthy the attention of fruit growers.

Lord Derby, a large, greenish apple, does very well in Ulster, is fairly prolific, and is a good doer.

Among dessert varieties, Beauty of Bath is a great favourite, being a nice showy apple that commands a good sale in the early season.

James Grieve somewhat resembles Cox's Orange Pippin, but is earlier, not of such good flavour as Cox's, but succeeds where that variety fails.

Allington Pippin is a variety that is doing well, having a good constitution, cropping well and of fairly good flavour. One of the prettiest of apples and one of the best for market work is Worcester Pearmain. This variety crops well, is a strong grower, and succeeds on most soils. One could, of course, name many other varieties, and good ones too, but the above are all good doers and hardy sorts.

It is inadvisable for market growers to attempt many sorts, and too often one sees orchards headed down for regrafting after a few years, because unsuitable varieties were planted in the first place. All this means loss, and can be avoided provided discretion is used in the selection of the site for the plantation, and that varieties of known worth in the immediate district are planted.



## Primula malacoides.

## Perpetual Flowering Carnations.

By J. G. BESANT, Oak Park Gardens, Carlow.

**A**LTHOUGH originally found by Père Delavay, this plant was introduced to cultivation by Mr. George Forrest when collecting in West Yunnan for the Bees, Ltd. The collector found it in abundance in the Tali Valley, favouring moist, sunny situations, at an altitude of about 5,000 to 7,000 feet. Mr. Forrest collected thirty-nine species of the Primrose family in China, and fifteen of these proved to be new, and most of them have been found to be hardy in our gardens.

*Primula malacoides* cannot be recommended as a hardy plant, but as an indoor plant it is quite an acquisition. At Glasnevin the seeds were sown in March or April last, and were grown in frame and house without any heat; now the plants are in five and six inch pots, and have been producing a cloud of light, graceful spikes throughout January and February. The photo shows a small plant, and gives an idea of the habit. The flowers are small, lilac in colour, having a pleasing fragrance. They are borne in whorls on slender stems, a foot to eighteen inches high. The seedlings vary much in size and shade of colour of the flowers, so it

is not strange to hear a white form has been raised.

For winter flowering, a light, airy house with enough heat to exclude frost and damp is desirable, otherwise the dense mass of foliage is inclined to rot near the centre of the crowns. Mr. Walpole, at Mount Usher, grows it well near a stream; in such a place it flowers with great profusion throughout the summer months.

One would hardly think that the flowers would last in water, yet they will remain fresh for a week when cut, and for small vases they are as light and fairy a decoration as one could well desire.

Mr. Forrest has again started out to China to hunt for new plants. This time he goes for Mr. P. D. Williams, an enthusiastic amateur in Cornwall. Our best wishes for success and a safe return go with him.

**I**N establishments where Carnations are in constant demand for decorative purposes a good batch of the winter-flowering varieties is indispensable. Of late years these Carnations have been much improved, and there are now a large number of splendid varieties in many pleasing shades of colour, which produce fine flowers with non-splitting calyx on long stiff stems.

In private establishments it is much better to grow a good batch of, say, half a dozen reliable kinds, choosing favourite colours, than to grow only a few plants each of a large number of varieties. My reason for advocating this is that by this means it is possible to cut sufficient flowers of one colour to decorate a large dinner table or drawingroom, and if the plants have been well grown one can cut and come again. Perpetual Carnations are easily propagated from cuttings at almost any season of the year, but preferably September and January.

They root very easily in shallow boxes filled with sandy soil and made fairly firm; fresh loam well broken up with the hands, with a liberal allowance of sharp sand, suits them well. Some growers recommend sand alone for rooting the cuttings, and they certainly root very quickly in it, but I find that if some soil is added the rooted cuttings take more kindly to the heavier compost when potted up.

The cuttings inserted during September root quite well in a cool house. It is a good plan to put the cutting boxes into deeper boxes and cover with glass. They should be put in a position near the roof-glass and shaded from bright sunshine. They should never be allowed to get dry at the root, and an occasional spraying overhead with clear water helps them greatly.



Photo by

Bees, Ltd.

PRIMULA MALACOIDES

The cuttings made in January should be similarly treated, except that they require a little bottom heat to root. A very good place to put the boxes is on the front pipes of the early vinery, and the boxes in which the cutting boxes are placed should be half filled with ashes to prevent the heat from the pipes drying them up. The glass should be gradually removed from the boxes when the cuttings are seen to be rooting freely.

The September cuttings when well rooted in the boxes should be cut back to four leaves. It is a mistake to simply pinch out the point, for unless they are cut back to firm wood they generally just send up a single shoot from the top of the plant.

When the side growths are about half an inch long the plants should be potted into three-inch pots, using a compost of good fibrous loam with the addition of one spadeful of clean wood ashes, one spadeful of sharp sand, and a four-inch pot of soot to each barrowload of loam. The plants should now be placed on a stage or shelf near the roof-glass and the house kept cool and airy to promote a sturdy growth. Artificial heat should only be used to exclude frost.

Early in spring, or when the growths are four or five inches long, they may be cut back again and the plants kept a little drier at the root to induce them to break quickly. When they are seen to be breaking freely pot into six-inch pots, using the same compost as for the first potting, but in a rougher state and with the addition of one seven-inch pot full of lime rubble and a 5-inch pot of Peruvian Guano to each barrowload of loam.

The plants may be removed to a cold frame in May, and during hot, sunny weather they should be lightly shaded to prevent the foliage from burning. The lights may be removed altogether at night, and an occasional sharp syringing with clear soot-water will keep down red spider and greenfly.

Some of the free-growing varieties may require to be cut back a third time, but it is not advisable to pinch after the end of June, as the plants must be well set with buds in October to ensure a supply of flowers in winter. The plants should be removed to their flowering quarters at the first sign of frost.

The cuttings struck in January should be similarly treated, except that the last pinching should be done at the end of July. These plants will come in as a useful succession to the autumn-struck ones. In early spring the best plants should be picked from the first batch and potted into eight-inch pots; these will give an abundance of flower all the summer months.

Winter-flowering Carnations are much improved by careful feeding when well rooted in their flowering pots. I find that Clay's Fertilizer suits them very well, with an occasional change in the nature of sheep manure and soot put into a bag and well steeped in a tank of water. The liquid should be used about the colour of weak tea.

The following varieties are good growers and have well-formed flowers:—Lady Bountiful (pure white), White Perfection, Mrs. H. Burnett (pink), Robert Craig (scarlet), President (crimson), Fair Maid (rose pink), fine for winter flowering; Winona (salmon pink), Enchantress (pink, white, and rose pink), Carola (dark crimson), May Day (satin pink).

## The Culture and Planting of Gladioli.

By W. H. PAINE.

IN the following notes I propose to deal only with the late-flowering strains of Gladioli, such as *G. Childsii* and *G. Gandavensis*, &c., as other rules apply to the *Nanus* and *Ramosus* sections.

I suppose soil should be the first consideration, and I fear too much has already been said on this subject; in fact a good deal would have been better unsaid, because nearly all the writers in the past have demanded very light or sandy soils for the culture of these bulbs, and condemn heavy loams as being totally unfitted for the purpose. I cannot understand what grounds these writers had for advising against loams and stiffer soils, for I find, in the culture of Gladioli in Ireland, for three years past, that bulbs lifted from adhesive loam have been larger and firmer than those grown in soil of a sandy nature, besides the flowers travel better to shows, which points to greater substance in the flowers; moreover, they send up stronger flowers the following year. Now, of course, I may be told that splendid flowers have been seen in very sandy places, and even on gravel. I quite admit this contention, and I believe that the mere production of flower may be done in any kind of soil, because the growth is made at the expense of the new bulb by using up the food stored in the old bulb. But I should only consider a cultivator successful when he reaped good bulbs as well as flowers, and could say that his flowers were as good the third year as the first from the same bulbs. I think yellow loam will give this result better than any other soil.

The greater part of my own bulbs have been grown in fairly stiff soil, and Mr. Jones, of Gowran, tells me his soil is much heavier than at Tully, while Mons. Lemoine, of Nancy, has stiff clay, and I never wish to see better bulbs or flowers than those at Nancy. Now, as regards treatment of the soil, I think it is best to trench about one to one and a half feet deep in early autumn without any manure, and in mid-winter to give one wheelbarrow load of well-decayed cow manure to a border six by twelve feet and a gallon of slaked lime. Dig this in with a fork, mixing as well as possible. The trenching operation affords good drainage and a rooting freedom if a dry season should drive the roots farther in search of moisture. Excessive manuring is harmful and may generate a disease which will run through the whole of the crop, but of this I will speak in a later article; but in a limestone soil, as in the Dublin district, a top-dressing of the same quantity of manure may be given as soon as the foliage is six inches high. This becomes necessary owing to the excessive hunger of limestone soils. I have spoken of growing Gladioli in a border devoted entirely to them, but of course most amateur growers require clumps here and there in herbaceous borders, where trenching and specific manuring become impossible, practically as good results can be obtained by mixing a heap of soil, say half of which is new loam

and the other half composed of equal parts well-decayed cow manure and ordinary border soil. Let this lay together for two months, then when planting time comes dig out a hole where the patch is required about two feet square and one foot deep. The planting may take place any time from the middle of February to the end of March. The earliest planted bulbs will flower about the second week in July, while the later-planted bulbs will run well into October. When planting no matter is so important as the tool used in the operation. Use a spade or trowel and not a dibber, because in using a dibber the bulb cannot go to the bottom of the hole, and impure air causes fermentation and decay of the bulb. But by using a spade or trowel to make the holes one is able to press the bulb firmly into the soil; cover with soil to former level and tread firmly with the feet, or in very stiff clay beating with the spade will firm it enough. It is not for me in this article to enter into which are the best strains of Gladioli; in fact a fair price gets a fair article in any of the types.

In exhibition work bulbs that are almost round should be chosen, as they give greater length of flower spike, and besides flat bulbs nearly always split into two growths, and so weaken the main one. I think the foregoing notes will meet the particular needs of Irish soil and conditions. But good and deep tilling is the secret of all success in the culture of Gladioli.

#### COLEUS THYRSOIDEUS.

THIS native of British Central Africa is of comparatively recent introduction. In habit it resembles an ordinary Coleus with deep green leaves, surmounted by a terminal thyrseid spike of bright blue flowers, the spike often reaching 10 inches in length. Its continuity of blooming is well shown by the numerous occasions on which it has been exhibited by Messrs. Veitch and Sons, at the Drill Hall, from January onwards, and even now plants are in bloom. Cuttings strike readily, and require stopping when young till 5 or 6 shoots are obtained. The final potting should be into 8 inch pots, in which plants are made 3 feet high and nearly as much through.

It requires an intermediate temperature, giving plenty of light, especially in winter.

## Iris stylosa.

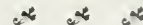
THIS is one of the most beautiful and useful of the early Irises in cultivation, and if it were only now to be presented to the gardening public it would doubtless receive, and rightly so, numerous first-class certificates and awards of merit. It is perfectly hardy, and blooms during the darkest months of the year; it has also the great advantage of lasting well in water. If the flowers are pulled up gently from the base when still in bud and put in a warm room, in the course of a few hours they

will open their delicate lilac flowers, which are strongly scented like Primroses, and will last several days. *Iris stylosa* is not fastidious as to soil, but it flowers better in poor stuff, such as lime-rubble mixed with soil, and to be put at once in its permanent quarters at the base of a warm wall. It strongly resents disturbance. This season the plants everywhere seem to be flowering remarkably well, presumably owing to the hot, dry summer. *I. stylosa* (type) has tall, lilac-blue flowers with slight yellow markings, and the variety *speciosa* is larger and taller. There is also a white variety, which always flowers earlier than the lilac one, but there is a stiffness about this one which we do not find in the ordinary form. *I. stylosa Imperatrice Elisabetha* has a slightly smaller flower of a much deeper



IRIS STYLOSA SPECIOSA AS A CUT FLOWER.

colour, and with white and yellow on the falls which is absent in the type. *I. stylosa marginata* is another dark form without the white markings on the falls. These varieties are interesting to add to a collection, but none of them can compare with *I. stylosa speciosa*, and if only one can be grown it will be found to meet with general approval, even from the most critical.—R. M. P.



Little brown seed, oh! little brown brother,

What kind of flower will you be?

I'll be a poppy—all white, like my mother;

Do be a poppy like me.

What! you're a sunflower? How I shall miss you

When you're grown golden and high!

But I shall send all the bees up to kiss you;

Little brown brother, good-bye.—*Pall Mall.*



## The Training of a Lady Gardener.

BY MISS M. A. CROSBIE.

THE subject is a very large one for a short article. My intention is to deal briefly with the training advisable for girls who intend to make their living by gardening; those who wish to take it up as a hobby would probably learn quite enough by working and studying the plants in their own gardens, by looking at other gardens, and by getting help from gardening friends—not to mention all the good books now to be obtained on every phase of the subject.

A large proportion of the students at horticultural colleges do not intend to use the knowledge obtained there as a means of livelihood. There is the sociability entailed by so many girls living together and all the variety afforded by such a community, so that to many the gardening is by no means the sole attraction of their time at college. This fact is, I fancy, partly responsible for the dislike with which many regard some of the horticultural colleges. Also, formerly, a student entirely trained at a college was probably much more efficient in theory than in practice. This has been remedied; but I would never advise a girl to begin and end her training at a college.

Health, strength, and a liking for the work are essential, as the work is hard and hours as a rule long; but there is no doubt that for a strong girl the life is both healthy and exceedingly interesting. There is one thing that cannot be too strongly impressed upon any intending gardener, and that is—that the training she gets must be thorough and practical. All through her training she must remember that it is not enough to see even elementary things done, she must do them herself. For instance, she may think, and rightly too, that when her training is finished and she takes a post she need not do any digging, but it is useless for her to attempt to show others how to dig when she cannot do it herself. Also, she must keep her eyes open, ask questions about anything she doesn't thoroughly understand, and take copious and careful notes.

There are three main branches in which posts may be got, to choose from (1) teaching in schools or lecturing; (2) gardening in private places; (3) market gardening or any form of nursery work.

She would require a certain amount of special training for any of these branches, but no matter which branch she intends to take up, a year, or if possible two years, should first be spent by her in general work in any large garden which is well managed, where she would get experience in fruit, flower, vegetable and indoor work. If she has two years to spare, the first year would be best spent in one garden, so as to see the complete round of the seasons there. If she has a second year, or even six months, she ought to go to another garden as far as possible from the previous one, where she would be working among plants grown under different conditions of soil, situation, and climate, which will entail some change in the treatment of them.

With regard to this, many owners of large places could be of great assistance by taking one or two girls at a time as apprentices and giving them the opportunity of learning a great deal in a very practical

way. There is no reason why the owner should be put to any inconvenience or bothered any more by a lady working in their garden than by an ordinary journeyman apprentice; as a matter of fact, in many large places the owner is only in residence for a few months in the year. I think if owners realised the enormous advantage it would be to many girls they would willingly allow them into their gardens.

A course of study at the Botanic Gardens, Glasnevin, owing to the kindness of Sir Frederick Moore, is open to two ladies every year. The large collection of plants and the all-round excellence of the garden management afford unique opportunities to any would-be gardener who is fortunate enough to obtain a vacancy. Sir Frederick Moore spares no trouble that his pupils may have every facility of using their time to the best advantage. A year spent at Glasnevin would be a year well spent.

When this general portion of her training is over she will have to go where she can obtain the special knowledge for the sort of work she means to take up, and which she thinks would suit her best.

There are perhaps more openings in the way of teaching and lecturing than in any other branch of the profession. Most schools now have their gardens under the care of a qualified teacher under whom the pupils work, and from whom they learn horticulture and botany. If she decides on this particular line, one of the horticultural colleges would be the best place to complete her training; and if she has made the most of her previous practical work, she can devote herself now more to the theoretical side of the subject and to botany, and also attend indoor lectures, which will be most useful to her in the future when she will have to lecture to a class herself. She ought to get the Royal Horticultural Society's Certificate, as it would be great help in getting her a good post.

Posts held by women as gardeners in private places are as yet comparatively few. But as time goes on, and employers get used to the idea, suitable openings in this direction will probably increase. If this is her object, after the first two years spent in general work she ought, if she has done well, be capable of taking a post as forewoman or assistant under a head lady gardener, and in course of time, when she has had more experience, advance to head herself; but she must be content with small beginnings. There are modifications and offshoots of this work—temporary jobs, such as giving advice on gardens, planning and carrying out alterations, overseeing pruning operations, &c. Interesting and varied work, and of a kind particularly fitted for women to undertake, as it gives scope for originality and tasteful ideas in planning improvements, &c., and, when a connection has been established, remunerative.

For this some knowledge of landscape gardening and the laying out of ground is necessary. There are, in England, several places that make a speciality of this, and at which courses of varying length can be taken. However, it would be most inadvisable for any girl, without exceptional talent in that direction, to devote herself to landscape work.

The third branch, market or nursery gardening, is carried out very successfully in many places by women. It perhaps entails the hardest work. If market work

is her intention, she ought either to go to one of the horticultural colleges, as most of them now have fully equipped market gardens, or to get into a private market garden where the business was carried on with success, and where she could learn the business from every side, not alone the growing, but also the packing, grading, and getting to market of the produce, whatever it may be. The business side must not be neglected, as it is equally important, if her venture is to be a financial success. Much the same may be said of nursery work. Several of the large nurseries now take pupils, and offer every means whereby a thorough knowledge of the trade may be acquired. The methods of growing produce, for either market or nursery purposes, differs in many ways from those employed in private gardens, where flowering plants are simply grown for decorative purposes, and fruit and vegetables more for quality than quantity.

There are many girls who have made out lines for themselves. If, when her training is over, any girl sees her way to map a career for herself out of the beaten track, by all means let her grasp at her chance.

In conclusion, let me again urge the importance of a thorough practical training; and given this, I think most gardeners will agree in highly recommending the life to any one about to enter the ranks.

## A Few Useful Annuals.

By J. H. CUMMING.

MUCH of the summer's display of flowers depends upon what is sown in spring, and so this month is a suitable time to begin work with what I consider a few choice annuals that of late years have done much to embellish our beds and borders.

The few I would draw attention to, flower for a long season and are also useful for cutting. Take, to begin with, the Single Aster. It is more largely grown each season, and it is rare to get any class of autumn flowers so valuable for cutting as these. The dwarf stiff forms have given place to the *Sinensis* type, which are free-growing and give a long period of bloom. The colours include beautiful shades of blue, white and pink. Good, big beds of these will give a pleasing surprise to those who have not previously grown them.

For general bedding purposes *Antirrhinum*s have come rapidly into favour, and it is no wonder, as they can be grown with ease, and are not particular as to soil. By careful selection, the varieties are uniform in habit and the character of the flower vastly improved. Sown now in gentle heat, and pricked off into cold frames when an inch high, they are ready for planting into their summer quarters about the beginning of May. There are three distinct sizes. The dwarf do well as an edging for small beds. Intermediate grow from fifteen to eighteen inches high, and are the most suitable for effect. The tall variety grows to a height of three feet and are most effective in mixed borders, especially if they have a dark-green background.

Those who like white *Spiral Candytuft* should sow now in the position the plants are intended to bloom. *Cosmea bipinnata* is a half-hardy annual that flowers for nearly five months in summer and autumn. Its feathery olive-green foliage and star-like flowers are

excellent for vase decoration, and it is as a cut flower that its value is most seen. Plants from an early March sowing may be relied on to commence flowering in June, and will continue till cut down by frost. *Coreopsis* or *Calliopsis* are useful town garden plants, and thrive well in moderately rich soil, and give a long season of flowers for cutting. *Godetia* in its various colours always realise a fine effect when tastefully arranged. There are several beautiful colours, but I am partial to *G. Schamini*, with its double, rose-coloured blossoms. For clumps in the border and for cutting, its tall, loose habit makes it a universal favourite. Sow in March, and when fit to handle prick out into cold frames. Planted out a foot apart in good, rich soil, a brilliant display will follow. A garden can be made very gay with *Gaillardias*. Seed sown in March and treated similarly to *Godetia* will bloom profusely the first season and for a long period. The colours include golden yellow selfs, brilliant crimson-edged, and others banded with gold. The blooms when cut will last fresh for nearly a week. They are not particular as to soil, and do well even in a poor place.

*Salpiglossis* is another half-hardy annual that is highly ornamental and much prized for cutting. A good, rich soil is necessary to get the best results, and a position where the full sun does not strike all day will prolong the flowering period, which lasts generally for July and August. Do not be afraid to thin out the seedlings of all annuals, as the flowers never attain perfection when the plants are crowded. Another annual that should not be omitted is *Kochia trichophylla*, not for growing in masses or for flower, but to be used as "dot" plants in beds, and as pot plants they serve a variety of purposes. Its graceful habit and finely cut, tender green foliage, changing to crimson in autumn, makes it an elegant pot plant for the conservatory.

## Novelties.

*POTENTILLA FRUTICOSA VILMORINIANA* is one of the best shrubs of recent introduction. The common Shubby Cinquefoil is well known as one of our beautiful natives, found in Clare and Galway, producing deep, golden flowers in the summer. The new form is similar in habit, forming a bush from three to four feet high, but the leaves are a beautiful silvery colour, and the flowers are a sulphur yellow with a deeper base. It was introduced from China by Mr. Maurice de Vilmorin, and is proving hardy, free-growing, and free flowering in a sunny position.

*ACER PENNSYLVANICUM* comes from the Eastern United States, where it is known as the Moose Wood. In the British Isles it makes a small spreading tree; when the leaves are shed the beauty of the stems is revealed. The dark-coloured bark is lined with beautiful silvery streaks, and from this character it is also known as *Acer striatum*. Messrs. Späth, of Berlin, have now introduced a variety of this tree, called *A. pennsylvanicum erythrocladum*, in which one not only sees the silvery lines on the older stems, but the young wood is of a good, bright red, in fact brighter than the Dogwoods. If the tree proves a free grower it should have a future for winter decoration.

## Hints to Amateurs.

**SOWING HARDY ANNUALS.**—These may be sown the first day the ground is in a dry, crumbly condition, either in March or April, choosing a day which is not too windy. The seeds may be sown broadcast or in lines. If filling up a border a handy way is to get a six-inch pot, press the rim slightly into the soil, give the pot a twist, remove it, and then sow the seeds in the circular impression left by the rim of the pot.

Small seeds are often covered too deeply, and it is well to pass some soil and sand mixed through a fine sieve, and use this as covering. Dust-like seeds only require the slightest covering. For seeds like *Mignonette*, *Convolvulus*, give a covering of twice or thrice their own diameter, and seed such as *Tropæolums* an inch or so deep.

**SOWING FOR TRANSPLANTING.**—It often happens that one cannot sow annuals in the spring where they are intended to flower on account of bulbs or spring bedding plants, so one has to sow with a view to transplant. Choose an open piece of ground, and mark out a bed the size required. Take out the soil about six inches deep, and give a heavy dressing of soot, then spread a layer of well-decayed manure and leaves three inches thick, make this firm, then over this put two inches of fine soil and level it. Give the bed a thorough soaking with really hot water, for this will destroy any slugs or worms. When the surface is dry enough the seed can be sown thinly in drills, and until the seedlings are up the bed should be shaded. The seedlings will grow quickly, and form a mass of roots in the manure, and when the time of transplanting comes they will move safely with a good ball of soil.

**SOWING SEEDS IN POTS.**—Place a large piece of pot over the drainage hole, and over this smaller crocks, then cover with moss or fibre from the loam to prevent drainage getting choked, and fill up with sifted soil to within half an inch of the rim. For all the smaller seeds the best plan is to immerse the pot in water until the soil is thoroughly soaked. After a time, when it has drained, the seed can be sown. Small seeds require the merest scattering of soil and sand; a pane of glass should be placed over the pots to preserve moisture, and until the seed germinates should be covered with a sheet of brown paper.

Weakly seedlings are the result of sowing too thickly. If difficulty is found in distributing small seeds evenly over the surface of the soil, mix the seeds well with very finely sifted soil, and distribute soil and seeds together.

**LIQUID MANURE.**—The time to apply liquid manure to a plant is when it has filled its pots full of vigorous, healthy roots and is forming its flower buds. Under these conditions, liquid manure, supplied weak and often, will effect a wonderful improvement in the size and colour of the foliage and flowers. Never give liquid manure to a sick plant, for it only makes the individual worse, and never apply when the soil is at all dry. An easy way to make liquid manure is to fill a small bag with sheep or horse droppings (the former preferred), and put it into a barrel of water. After steeping for a few days it will be ready for use. As to a guide to strength, it can be diluted until the colour of pale beer, but always

remember when using for greenhouse watering to add enough warm water to make it luke-warm, for, naturally, very cold water gives a plant in a warm house a serious check. One of the very best liquid manures for greenhouse work can be made by dissolving one ounce of saltpetre (nitrate of potash) and one ounce of phosphate of potash in two gallons of water. It is expensive to use in quantity, but if one desires to grow a few plants particularly well or for exhibition purposes, then no better stimulant can be obtained. The mixture forms a complete manure for the plant and supplies the materials the plant requires in a soluble form. It can be strongly recommended for tomatoes, roses, carnations and almost all pot plants.

## Sweet Peas.

(Continued.)

**W**HEN the young plants are well up give air on all occasions the weather permits, as I firmly believe more Sweet Peas are spoilt by coddling in warm frames and houses than most people imagine, this and planting in loose soil being very often the cause of the plants failing during the summer. Prepare your trenches early in the autumn, mixing your manure and soil thoroughly, and the deeper and wider the better; trenches should be two feet wide at least; before planting, if ground is dry, tread the soil well to make firm. Plants can be put out in a single line one foot apart or be planted in a double line, zig-zag, giving the plants in each line fifteen inches; the latter method is useful where ground is limited, but in staking be sure and leave the tops of stakes wide apart, not so close as when staking plants in single lines. Experience has proved that eight or ten plants are scarcely enough to give a good selection to pick from when show time comes, twelve to fifteen plants being more satisfactory.

With regard to varieties, not many may care to grow the twenty-four sorts given in last month's *IRISH GARDENING*, and would like to know the best twelve varieties. Where the plants are not raised under glass now is the best time to sow, early in the month, in light, dry soil; the end of this month, in cold, stiff clays; in the latter it would be well to cover the seeds with fine, light mould passed through a half-inch mesh riddle.

The best twelve, in my opinion, are Maud Holmes, Etta Dyke, Clara Curtis, Hercules, Elfrida Pearson, Thomas Stevenson, Nettie Jenkins, Tennant Spencer, Elsie Herbert, Nubian, Constance Oliver or Mrs. Hugh Dickson, and Mrs. C. W. Breadmore or Earl Spencer. W. T.

## THE EDITOR'S TABLE.

A BOX of interesting flowers, picked from the open, arrived from Daisy Hill Nursery, Newry. The contents were *Prunus Davidiana* and its beautiful white variety, *Prunus Miqueliana*, *Hamamelis*, *Azara integrifolia*, *Iris reticulata Krelagei*, the dainty White Hoop-Petticoat Daffodil, &c. Mr. G. Smith writes—"Arbutus canariensis has stood outside for the past 9 years, but was more or less protected until 2 years ago; since then it has not been covered; now it forms a nice bush 6 feet high and 6 feet through, covered with many bright-red shoots like the one I send you."



## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's.



WITH lengthening days and bright sunshine the ground will be in good working order by now. Any work which had to be abandoned last month on account of frost or heavy rain should now be completed as early as possible.

Should any planting or removing of roses, trees, or shrubs, still remain to be done, such work should be attended to at once. Each plant should be securely staked, and a mulching of light material given to the surface of ground to protect roots from drying winds and prevent evaporation. Herbaceous borders should now be gone over, and if any alterations or planting is required it should be done as early as possible.

The surface of all beds and borders occupied by spring bedding plants should be stirred and made neat, firming in all plants disturbed by frost, and making good any failures that may have occurred during the winter.

All grass should be swept and rolled preparatory for mowing.

All wall climbers, rampant roses and shrubs should now be thinned or pruned, and carefully laid into their allotted spaces, if not already done.

Many seeds should now be sown as soon as the ground is in good working order. Choose a south border on which the following can be sown for summer display, they transplant well:—Alonsoa, Anagallis, Calendula, Cornflower, Cactalia, Godetia, Larkspur, Lavatera, Lupines, Nicotiana, and many others.

By the end of the month annuals can be sown where they are to flower. Many of them will require thinning later on, as they do not transplant successfully. Asters, Stocks, Salpiglossis, Scabious, Ricinus, Maize and Zinnias will require to be started in a little heat.

Perennials and other seeds sown in boxes last autumn will require to be pricked out into cold frames and encouraged to make sturdy growth. Many of them will make a fine display during summer and autumn. Prepare ground for Sweet Peas by thoroughly pulverising to a good depth, and working-in a liberal supply of decayed cow manure. Plant out those which were raised in pots last month, and protect with small twigs or stakes. A sowing can now be made where they are to flower; these will form a succession to above.

There will be many bright patches in the flower garden during this month. Already Scillas, Chionodoxas, Crocus, Leucojum vernum, and many other bulbs are very gay. The bright Erica carnea and its

white variety, also Erica hybrida, are most conspicuous just now. These will be followed by many other bulbs and plants, so that we are now assured that the glories of spring are again with us.

### The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath,  
Killruddery, Bray.

**PEACHES UNDER GLASS.**—Commence disbudding after your trees have finished flowering.

Pay attention to disbudding, as this work must be done by degrees, the foreright buds in the first place and the others should be gradually thinned away. Remember no more shoots and foliage are required than you have space for; each shoot should have sufficient room for full development. Light and space are both most essential, and all leading shoots ought to be trained at their full length. Do some disbudding every second day, and complete the work in about a week, then the sap circulation undergoes comparatively little derangement. Each grower must use his own discretion about what quantity of fruit to leave on the trees, for if they are healthy and vigorous they can easily carry a good crop, but on weak trees or branches fewer fruit should be left, or the consequence will result in quantity instead of quality, and to my mind inferior peaches and nectarines are almost useless. Syringe the trees twice daily and keep them well watered, also ventilate with due caution.

**PROTECTING BLOSSOM.**—Amateur and professional gardeners must be prepared for trying weather during the next few weeks, when the trees are flowering. We all know how disappointing it is when you see a splendid promise of fruit on fine, healthy cherries, peaches and pear trees, and then wake up some morning and find that all your hopes have vanished, and there will be little or no fruit after all your labour and trouble. The following method I can recommend for protecting trees, and always practise myself. Get strong stakes or thin poles, and set these twelve feet apart and five feet six inches out from the wall, and then lean them up under the coping. Get some tiffany or ordinary fishing nets, double for preference, and tie your covering along the top wire, then let it down the desired length; next get thin wire or strong cord and run it through the bottom of the net, and tie to the poles, and your covering can be drawn up during the daytime, when the weather is favourable. Small bush trees might also be treated in a similar manner. Never spare trouble in trying to procure a good set of fruit, and think of the pleasure a successful crop will give you. When procurable dry bracken forms an excellent material for the same purpose.

**BLACK AND RED CURRANTS, ALSO GOOSEBERRY CUTTINGS.**—Those who failed to propagate these in the autumn should at once insert a few cuttings in a properly-prepared border, in rows about fifteen inches apart. They will soon form roots, and can then be planted out the following winter. It is always best to keep some young bushes in reserve.

**STRAWBERRIES.**—Fruit will now be formed on early plants. Keep them on a shelf near the glass, syringe well, and be sure that they are kept free from greenfly. Feed occasionally with liquid or artificial manure. Only allow six or eight fruit on each pot, and never let

them get really dry at the roots. A second batch should be ready for starting when required.

**GENERAL REMARKS.**—I will now take this opportunity of reminding you to look carefully over all fruit trees, and make quite sure that all have been properly cleaned and tied, also the borders forked nicely and top-dressed. None of the trees will require mulching until later on, though a good dressing of wood ashes and old mortar mixed with some new loamy soil will be found an excellent thing for spreading over those which have spreading roots near the surface; or a little artificial manure washed in with a nice rain will benefit exhausted trees.

## The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor, Co. Kildare.

**D**URING the past month we have had so much rain and frost, with just one week of dry weather (from February 11th to February 18th), and now as I pen these lines it has been raining for eighteen hours, with a cold north-east wind, and this must leave the soil very cold and wet, unless in very favourable localities and on light, sandy soils, so that the sowing of vegetable seeds in many gardens will be later this year than usual. It is much better to wait, even though a little late, than to sow the seeds now, and thereby run the risk of failure through getting them in when the ground is cold and wet and also in a pasty condition by working the soil when wet.

I know that with so many shows now being held, both local and county, throughout Ireland, much greater interest is taken in the growing of vegetables for home use and exhibition than formerly. These competitions give impulse to endeavour and zeal to excel in growing of plants. It is only by sowing good seed and by careful culture during growth that vegetables of the highest quality can be obtained, and then only when you secure for the plants the soil conditions that suits them best, by deep digging or trenching, using as much manure as can be spared for most crops, for by no other method can those grand samples of vegetables be obtained we now see at shows. Even for home use, the extra quantity and quality will well repay the labour and manure.

Once we get fine weather and the ground dry and warm, get in such crops as parsnip, onion, early peas, broad beans, potato, spinach and turnips. With a small sowing of the various cabbages, cauliflower, Brussels sprouts, and lettuces on a warm, sheltered border, netting the beds immediately the seed is sown to protect from birds, which often do much injury.

**PARSNIPS.**—If a few specimen roots are required for exhibition, bore holes three to four feet deep and about nine inches across the top of holes, in lines two feet apart and one and a half feet from hole to hole. Fill the holes with a compost of fresh soil, leaf or turf mould, with a little sand and well-rotted horse manure added; put all through a half-inch mesh riddle and mix with each barrowful a gallon of fine bone meal or dried blood manure; make the soil firm in holes and put two or three seeds in the centre of each hole, and cover a good inch deep.

The same preparation and soil will suit for growing carrots and beet, but these should not be sown till the

beginning of April, unless wanted for early shows. The best parsnips to grow are Tender and True and Model White.

**CARROTS.**—Sutton's New Red, Intermediate, and Early Gem (the latter stump-rooted, but fine for July shows).

**BEET.**—Pragnall's Exhibition I have found best in shape and colour.

**SALSAFY.**—This is a winter vegetable, much liked by many, especially when clean, straight roots, free from flower stems, are secured. It requires the same culture as carrots and parsnips, and, like those vegetables, if fresh manure is used, causes the roots to fork. April is soon enough to sow the seed, and one and a half feet apart in the lines is quite enough room.

**GLOBE ARTICHOKE.**—Towards the middle or end of the month is a good time to make a new planting. They should be planted in an open position in ground deeply trenched and well manured. Select well rooted suckers, cutting off all broken roots and leaves; plant in rows 4 feet apart and 2 to 3 feet between the plants in the row. If a long succession of Globe Artichokes is desired a short row should be planted every year, as these young plants will give heads a couple of months later than the old established plants. Get in Jerusalem Artichokes at once, and though they will grow in almost any soil or situation, it is time and manure well spent to thoroughly prepare the ground for them. Plant like potatoes, in rows 3 feet apart and 12 to 15 inches between the tubers, selecting medium sets.

**CAULIFLOWER.**—Plants raised in autumn and wintered in frames must be carefully hardened off by giving plenty of air and removing the lights entirely a couple of weeks before planting out on a warm sheltered border in deeply dug and heavily manured ground. Give plenty of air to cauliflowers, lettuce, Brussels Sprouts and onions raised in heat during January and February so as to have the plants stout and sturdy for planting out next month.

**ASPARAGUS.**—Where the beds of this highly esteemed vegetable were covered with manure last autumn remove the straw portion and fork in what is left, rake over the beds to give a neat appearance, and keep free of weeds. A dressing of salt every second year at this time benefits the crop; while the year no salt is given apply superphosphate and kainit equal parts, 4 ounces to square yard, early this month, and give a dressing of nitrate of soda each year in April and May, 2 ounces to square yard at both applications.

**CHEERY.**—Sow the seed for main crop on a gentle hotbed, keeping near the glass to prevent the plants being drawn and weak. Early raised plants should be transplanted into other boxes, allowing about 2 inches between the plants in the boxes, which should be filled with fine rich soil, putting a good layer of decayed manure in the bottom of the boxes; the roots will ramble through the manure and the plants will lift with good balls of soil attached when planting out.

**ONION.**—I am afraid very many cottagers and amateurs do not sow their onion seed early enough in the year, for almost any kind of ground will grow fine large onions if properly prepared; a loamy soil not too heavy is best but no matter what your soil, trench 2 or 3 feet deep, giving a good dressing of manure while work proceeds, and when finished apply  $\frac{1}{2}$  lb. of lime to each square yard. Before sowing seed rake over plot, leaving level; draw shallow drills 1 foot apart; cover the seed and make the ground firm by treading, and finish by raking the plot over.

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## Notes on Gardens and Orchard Work in America.

*(Concluded.)*

By SIR F. W. MOORE, M.A.



IN antecedent portions of this paper I have attempted to give a brief outline of gardening work in the Eastern portions of the United States and of Canada. In this, the concluding portion, I will summarise my impressions of orchard work and fruit growing generally in the same district. We are apt to associate with the name "American Apples" vague impressions of huge orchards, fruiting freely, giving little trouble, and all in good order. Emigration agencies portray in enticing terms the many advantages of fruit growing in America, and the certain success which is sure to follow the simple process of planting apple trees, which helps to confirm these impressions. When dealing with living matter there is, and can be, no certainty, although stalwart Mendelians try to persuade us they have reached the haven of certainty. There are rocks and rude knocks ahead of all such enthusiasts.

In passing through the country, even by train, one is impressed with the number of small orchards attached to the farmsteads, and also with the age, size, and frequently state of neglect of the trees generally. In leaving the beaten track and penetrating into remoter districts, the same conditions prevail, so that it is quite apparent that apple growing is no very recent industry in the older states and provinces.

One finds exactly as in this country the good, bad, and indifferent. Young and flourishing orchards are to be found, and old and very neglected orchards are also, unfortunately, constantly in evidence—branches broken and hanging, moss-covered stems, irregularly and badly-shaped trees, unfilled gaps in the rows, grass up to the trunks, and weeds abundant. However, in other districts where, owing to climate, soil, natural conditions, and not infrequently to the energy and enthusiasm of a few sound, practical and intelligent men, fruit growing as distinct from general farming, has become a predominant factor, a very different state of affairs prevails. The orchards are clean, the trees are clean, they are planted in regular order, and the heads of the trees are nicely thinned and well balanced; in fact it is quite evident that the question of profitable fruit growing for commercial purposes is being seriously and thoughtfully worked out, and practically and scientifically handled, and that it is proving successful. Such districts are neither few nor small, and they are extending. Good illustration examples occur in the long stretch along the shores of Lake Ontario, almost from Toronto to Niagara, and in the Hilton district near Rochester. From these districts much of the good quality fruit is shipped, not apples only, but pears, peaches, plums, and grapes; in fact it is noteworthy that Canadian peaches were placed in good condition on the London markets last year. The same difficulties beset the industry in America as in this country, and even more energy has been

expended in overcoming these difficulties. The great difficulty lay in persuading the farmer that fruit trees required constant care and attention, and that they amply paid for such care and attention, in fact that they could be made the most remunerative part of the farm. With increased facilities for transport, reduction in freight, improved markets, the export of fruit from America became of so much importance that both Governments took special interest in it, and began to devise means and

Grimsby, Collamer Bros., Delos Zenny, and F. E. Varker of Hilton, who had large interests in fruit growing, had improved their orchards and systems of cultivation in advance of many of their neighbours, and found their trade injured, and their orchards injured and imperilled by the neglect of old orchards in their vicinity. Such growers had demonstrated the great benefit of open cultivation as against trees in grass, the absolute necessity of spraying, the necessity of judicious pruning, or thinning



A DEMONSTRATION ORCHARD.

ways to develop and encourage it—a remark which also applies to the separate Governments of the States and Provinces—as distinct from the Federation. Abundant leaflets and other kinds of literature prepared by experts were circulated, but these failed to move the farmer or to convince him, and other methods had to be adopted. Education was one of the methods adopted, demonstrations a second, and finally, if these fail, there is compulsion. Before dealing with these subjects it may be advisable to consider briefly the causes which rendered it practically imperative on the Government to take action. Intelligent and capable growers, such as E. D. Smith of Winona, Major Roberts of

as some prefer to call it, and the necessity of securing uniformity in quality and in grade. They found a ready market with good prices for clean, well-packed, even graded fruit, packages which could be relied on, true to sample, and honest from top to bottom; in fact such men created the market, and maintained it. Unscrupulous or careless growers did much to injure this market and to create a feeling of distrust by forwarding unevenly graded, badly packed, and unsound or marked fruit. To combat this, growers banded themselves into local “Fruit Growers’ Associations,” with a central or general association which drafted rules and regulations, and eventually influenced

the Government to pass bills regulating these matters. One of these bills deals with growers who keep their orchards dirty, and who do not spray for insect and fungoid pests when called on to do so. Government inspectors go round and examine the orchards and call on the owners to put things in order. If he neglects to do this it is done for him, and the full cost is levied off him; in fact he is liable to be put in gaol until it is paid, and these penalties are

of the fruit growers themselves. The inspectors are largely recruited from the young men educated at the Agricultural Colleges at Guelph, Ottawa, and the MacDonald College, St. Anne's. The teaching at the last named, and in fact in all, is of a thoroughly practical and useful character, and such as will produce useful and capable men, and so in fruit growing, as in all else, education plays an important part. Having failed to teach the farmer by leaflets, demon-



SHIPPING FRUIT TO WESTERN MARKETS.

actually and genuinely enforced—the good growers for self-protection see that they are. Another enactment regulates the sale of fruit. Apples must be in uniform packages, holding a definite quantity; the fruit must be evenly graded in certain brands or sizes; the fruit must be free from blemish, or injury from insect or fungus according to the grade, and the name of the variety, the grade, and the exporter's name must be marked on the package. Here again infringement is followed with drastic punishment, confiscation, fine, or, failing these, imprisonment; and these stern laws were, in Canada, passed and enforced at the suggestion

strations were resorted to. Permission was obtained from the owner of a neglected orchard near a main road to take a section of his orchard, to handle it free of cost to the owner, and to give him any profits. A notice board is put up, and advertisements are put in the papers stating when the various operations will be carried out. At these stated intervals trees are thinned, sprayed, cleaned, the fruit is gathered, graded, sorted, packed, and marketed, and the owner gets the money received. Two years' work generally converts a district and secures results which leaflets utterly failed to get.



These experiments and others conducted at the experimental farms have proved that varieties of apples cultivated in the Eastern States do not become paying until after five years planted, and may not until after ten years. On the other hand, with judicious cultivation, remunerative crops are obtained from trees 60 to 100 years old. The Canadian Government has made many attempts to improve the varieties of apples cultivated and to introduce new varieties and varieties which will stand the severe frosts of the colder districts. The definition given of a desirable apple is "A hardy, late-keeping, productive apple, of fine colour and good quality." To obtain this numerous varieties have been tested at the experimental farms. Up to 1910, 569 varieties were tested, and of these the Russian and German varieties gave best results. Numerous seedlings have been raised between the best varieties, but with discouraging results; in fact from crossing the best selected apples only, one really first-class apple results from 400 crosses, and the further discouraging factor is in evidence that some of the best varieties now grown, such as Northern Spy, Mackintosh, and Baldwins, have been chance seedlings. Further attempts to obtain hardiness are being made by using stocks, and as parents, the very hardy crabs, such as *Pyrus baccata* and *P. prunifolia*, the efforts of the Government being well seconded by the good trade growers. From some of these remarks it will be gathered that the varieties grown for home consumption and for exports are very different from those cultivated in Ireland. The most popular varieties are:—

Early—Red Astrachan, Duchess of Oldenburg, Wealthy.

Autumn—Wealthy, Gravenstein, Emperor Alexander.

Early Winter—Fameuse (Snow), Mackintosh, King of Tompkins County, Rhode Island Greening.

Late Baldwins, Northern Spy, Golden Russets, Ontario.

With one or two exceptions these are not satisfactory in Ireland, and not one of them is extensively grown. Blenheim is one of our generally grown apples, which is also satisfactory in America. Owing to the climate and the greater ripening power of the sun and dry atmosphere, most American apples are firmer

in flesh than our apples, and the skin is tougher, with more "bloom." It is not necessary to store or "sweat" apples for any length of time before packing.

During the latter part of September and in early October it is quite a common sight to see large heaps of apples in the orchards with people busy packing them. A temporary bench is put up, loads of clean, new barrels are conveyed to the spot, and in the open, the apples are placed on the bench, where they are sorted, graded, and packed ready for transport with practically no danger of fermentation or heating. In some districts they are conveyed to large sheds, or packing houses or stores, where this process is carried out. The damaged, blemished, or worm-eaten fruit is sold locally, or sent to the jam or jelly factories, or to the drying houses to be preserved.

It is not necessary to flood the market with all the packed fruit at one time, as much of it can be safely stood in frost-proof cellars or sent to large co-operative cold-stores which exist in some localities.

For home consumption and local markets, fruit generally—that is to say, pears, grapes, peaches, plums, as well as apples—is very attractively put up in chip baskets holding one stone. The baskets have a cross-handle, and there is a cover, consisting of a wooden rim, one to two inches wide all round, the intervening space being covered with pink gauze or muslin, which enables the contents to be seen, and protects from pilfering and dust, the whole forming a most attractive package which the purchaser can easily carry. In this we have lessons to learn. Such baskets, full of sound, good quality apples, were selling in early October at about one shilling each wholesale.

We are all familiar with the bushel boxes and the barrels in which American apples reach this country, but we are not familiar with the enormous extent of the trade. Canada alone now produces over 1,000,000 barrels annually, and the area under cultivation is rapidly being extended. The Government, the Banks, the Railway Companies, and the Shipping Companies are doing all they can to foster and expand this trade, recognizing its vast importance to the National wealth and prosperity, and to ensure that it is placed on a healthy and sound footing.

Such efforts may achieve much, but without

the practical co-operation of the growers they would be futile. The good growers are co-operating; patriotic, intelligent, industrious and progressive men are taking possession of the best fruit areas, and their systems of cultivation are excellent and adaptive. They have much to contend with which we escape. Labour is scarce and very dear, and mightily independent. Insect pests exist on a scale we have no conception of. Sun scorch we do not know, and have not to provide against. Winter freezing has no terrors for us, spring frosts being what we dread, and our really destructive storms are few and far between.

Good growers scorn the idea of haphazard or careless planting. The young trees are carefully and systematically planted. The type of tree is generally a half standard, on stems 3 to 4 feet high, with evenly balanced round head, the permanent apple trees being left 35 to 40 feet apart, with stops of such varieties as "Wealthy" between, to be afterwards removed. From the first, pruning is carefully attended to, young trees being well shortened back, and the older trees are carefully thinned and regulated. There seems to be no doubt as to the necessity of pruning. It is done, and it costs a lot. Open cultivation is general in all good districts, and gives far better results than grass orchards. The land is kept well cultivated, manured and drained, and as a result splendid trees are seen often 40 feet high, with even, well-balanced heads as much through, and carrying fine crops of sound fruit. Spraying is not only essential, but in many districts it is compulsory. There is the usual winter or spring spray, and sometimes two or three summer sprayings are necessary. The chief sprays used are—1. Caustic spray; 2. Kerosene emulsion; 3. poisoned Bordeaux mixture; 4. lime-sulphur wash, which practically meet all exigencies.

This is necessarily only a very brief summary of some of the principal points noted by me, which I thought might be of interest to fruit-growers in Ireland. Finally, I may remark that there is still ample opening for Ireland as a fruit-growing country, and so far there seems to be no fear of any serious injury to our trade in good early eating and cooking apples, and in first quality late cooking apples such as Newton Wonder, Lane's Prince Albert, and, above all, Bramley's Seedling.

## The Laying-out of a Garden.

WITH the great revival of popular interest in horticulture which has taken place during the last few years, the question of the laying out of the garden has naturally come more and more to the front, with the result that it is now receiving some of the attention it deserves.

Of course, in any case, the plan of a garden will show some indication of its designer's individuality and skill in adapting special requirements to the site, by making the most of any good natural feature, but, as a general rule, garden designing may be roughly divided into two classes, the formal style and the natural style.

The formal type of garden design takes largely into account the style of the house; for instance, if the house be built on 18th century lines, the grounds around it will be laid out more or less after the 18th century style, with formal walks, and any garden buildings will follow the principles of classic architecture.

The natural style gives great scope for the exercise of individual ideas, the design being bound by no fixed rules.

When a new house is to be built, and a garden made, the ideal thing is for the owner, the architect, and the garden designer to meet on the proposed site and consult together. It is very rarely that this happens, because the house is usually built before much consideration is given to the grounds around it. Therefore, frequently, the house is not as conveniently placed upon the site as it might have been, and the probabilities are that a few feet one way or the other would have made a great difference to the designer of the garden, and very little to the architect.

Whichever style of laying out the garden is adopted, the whole plan should be made out on paper and given full consideration first before a spadeful of earth is moved, because, as may be imagined, the total cost reaches a far higher figure in the end when a badly arranged plan is changed for an improved one after the work on the ground has been started.

In dealing with large areas of land, or where it is very hilly and broken up, it is necessary to use a theodolite, but on a small piece of ground the difficulty of levels can generally be solved quite satisfactorily with the assistance of a 14 feet straight-edge, a spirit level, and some dozens of wooden pegs. The lines along which to take the levels can be sighted by poles if necessary.

A garden is intended to be used and enjoyed for many years, therefore all the work should be thoroughly well done, keeping in mind its permanent character, and "no scamping over" must be allowed.

For instance, when making paths, the earth should be excavated to a good depth, and replaced by brick-bats and clinkers, well rammed down, then a layer of finer material, and finally a surfacing of gravel. Such paths will be pleasant to walk on at all times of the year, as the rain will run off quickly.

In conclusion, it may be said that there is an immense amount of pleasure and interest to be gained from making a garden, as it combines the practical with the beautiful.

H. T.



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STATICE SINUATA HYBRIDA

[Sutton

## Some New Annuals.

**A**NNUALS have only a short period of existence, so one should endeavour to give them as happy a time as possible. With few exceptions they love the sun, so an open position, not overhung by trees, should be provided. Dig and manure the earth so that it provides a deep feeding ground, and thin the plants in the young state so that there is a free circulation of air round each plant, then your plants will repay you by the finest of flowers over a long period of time.

Among the showiest of recent introductions is the Orange Daisy from South Africa, called *Dimorphotheca aurantiaca*. The gorgeous orange flowers are borne freely on plants about a foot to fifteen inches high, and it continues to bloom for a long time. Its only fault appears to be that the flowers close up on very dull days, so give to it the sunniest position possible. Growing, as Mr. Beamish of Queenstown grows it, to cover a sloping bank in full sun, it is a sight well worth

seeing. The seed may be sown in the open ground during April or raised in a cold frame. As a pot plant it is useful for conservatory decoration during the early months of the year.

*Dimorphotheca aurantiaca hybrida*.— Under this name are many beautiful hybrids like the parent in habit, growth and foliage, but with a rich diversity in the colour of the flowers, varying from white, reddish and bluish-white tints, yellow to golden yellow and salmon orange.

*Nemesia Blue Gem* forms a compact bushy little plant, about a foot high, covered with pretty light blue flowers, and is a distinct break from the other more gaudy members of the family; it should be sown in pots and planted out when large enough.

*Nigella Miss Jekyll* is an improved form of *Love-in-the-Mist*. The clear corn-flower blue flowers are set in a delicate mist of foliage. It is extremely hardy, and may be sown where it is desired to flower. Autumn sown seedlings make fine plants.

*Petunia Rosy Morn* is a first-rate bedding plant; the flowers are a medium size, of a good fresh pink, and it stands outside far better than the heavy large flowered varieties. It should be sown in pots and pricked out when large enough.

The early flowering strains of *Cosmos* are a great advance on the older kind, which usually produced only a mass of feathery foliage with, maybe, just a few flowers in autumn. The flowers are like small *Dahlias*, and very useful for cutting. Sow the seeds in heat, and plant out

early in May in poor soil and full sun. *Cosmos Crimson Ray* is a new and bright form.

The beautiful little blue *Swan River Daisy* is always a great favourite. It now has two colour varieties, a pink and a white; both are pretty and useful either for an edging to a bed or in front of a border.

The *Clarkias* take a leading place amongst the annuals of easy culture. If the seedlings are thinned to nine or ten inches apart, the plants will form fine branching specimens about two feet or more in height. Among the newer varieties are *Clarkia Scarlet Queen*, with extremely double flowers of an intense orange scarlet; *Salmon Queen*, *Delicate Pink*, and *Vesuvius*.

The Stock-flowered *Larkspurs* are really varieties of *Delphinium Consolida*. This annual grows wild in South Europe, and often makes the corn fields a blaze of blue. The plants are quite hardy, so the seeds may be sown outside, but should be well thinned when large enough. The usual height it reaches is about three feet, but if sown in autumn and transplanted to really good ground in spring, it will reach five feet high and flower until cut down by frost. The *Rosy Scarlet Lark-*



spur is the most telling colour, and is very useful for table decoration. Other colours may also be obtained, as violet, pink, mauve, and white.

Many of the annual *Chrysanthemum*s with the zones of different colour are too gaudy and bizarre for many people. Now, from the Corn Marigold there is a race with very large flowers and beautiful soft shades of yellow. For the border they are a great addition, also just the thing for cutting, as they last well in water, so that they should be a great help to many an exhibitor of cut flowers. *Chrysanthemum* Morning Star has flowers of a beautiful primrose shade; *C.* Northern Star has ivory white flowers with a sulphur zone; Evening Star has deep yellow flowers, and Eastern Star has a deep centre with primrose ray petals.

*Statice sinuata* is a large-flowered Sea Lavender with mauve flowers; it is now largely grown as a cut flower for the London shops. It succeeds best if sown in a box and planted out in April or May. It also makes a good pot plant for the conservatory, and the dried flowers, when mixed with a light and graceful grass like the *Eragrostis*, are most effective for winter decoration. The variety *Statice sinuata hybrida* varies in colour from mauve, yellow, and white.

Other good annuals are—*Cosmos miniata*, with yellow flowers on long stems, useful for cutting, something like miniature sunflowers; *Amerboa muricata rosea* has pink flowers on long stems like a *Centaurea*, and *Gamolepis tagetes* should make a useful plant for edging, it produces lemon-yellow flowers freely above neat foliage.



#### VIOLA GRACILIS X. MUNBYANA.

This hybrid *Viola* has recently received the name of *Viola* Mrs. Bowles. It seems to have inherited the good qualities of *V. gracilis*, but differs in the foliage, being larger and not quite so neat in habit; the flowers are also of greater size and not so purplish in colour, opening sometimes before *V. gracilis*, and continuing to flower nearly the whole summer and part of autumn. The *Violas* Mrs. Bowles, *V. gracilis*, and *V. cornuta purpurea* would make splendid edgings to shrub beds, and at Glasnevin a long border by a walk edged with *Viola cornuta purpurea* gave a great display over a long period, even during last summer's heat. *Viola gracilis* is not quite so

rampant as the former, and would make a neater edging. The plant comes from Greece, and during the last few years has deservedly won great appreciation as a subject for the rockery. It is perfectly hardy and free-growing, and the flowers are more refined than those of *V. cornuta*; in colour they are a real deep rich purple.



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THE ROSE SCARLET STOCK-FLOWERING LARKSPUR

## Melon Culture.

By W. D. BESANT, Curragh Grange Gardens, Co. Kildare.

**S**TILL within the memory of some of our older gardeners the melon was not held in the high esteem which favours it to-day. It would startle the present generation to hear of cooking melons and serving them with vinegar, salt, sugar, &c., yet such was the case in the olden times. To-day, however, the results of the hybridization and selection are such that the fruit has been brought to a high state of perfection, and is one of the most delicious we grow without even the aid of a pinch of salt or sugar.

The best soil for melons is a good, strong loam inclining to the stiff side, yet not too stiff; if the latter be the case a very small proportion of leaf-mould should be incorporated with the loam; the top spit from an old pasture is very good for melons, but it should have been stacked for at least six months previous to using. When preparing the bed chop the soil, not too finely, with a spade, adding while the work is in progress a sprinkling of old mortar rubble. I do not advise any other ingredients in the soil, for if it be too rich the plants will romp away, making a lot of gross wood, which is detrimental to obtaining a nice, even crop.

The culture of the melon differs from that of the cucumber, inasmuch as the former requires more sun and air, a slightly higher temperature, and somewhat drier conditions during a period of its growth, although in most private establishments one house has to suffice for both; again, cucumbers may be grown throughout the winter, while melons cannot, at least if they are obtained they are not worth the trouble bestowed on them.

The first batch of seeds should be sown early in January, making successional sowings every three weeks according to the space and the requirements of the establishment. Insert one seed into a 2½ inch pot, using a good, free soil with plenty of leaf-mould and sand for seed-sowing; if possible plunge the pots in a propagating case with a bottom heat of 75 degrees, with an atmospheric temperature of 70 degrees. When the seedlings appear admit air cautiously, gradually hardening till the plants can be removed from the case and stood near the roof glass. When the first rough leaf is developed, pot on into 5-inch pots, using a rougher and heavier compost, which should have been previously warmed, as nothing is more against successful cultivation than potting into cold soil. Return the plants to the case again for a few days to recover from their shift, then stand out near the roof glass again. When they have made about three rough leaves they are ready for their final shift, either into 12-inch pots or, preferably, a ridge bed; this should have been prepared three or four days previous to planting, so that the soil may have become somewhat warmed.

The bed should be formed over a good supply of hot water piping or a good, hot bed of rough litter to ensure a good bottom heat. Whether pipes or hot bed be the medium for bottom heat, when putting in soil for planting, first lay a layer of turf, and on this place the ridge bed, which should be about a foot deep and 15 inches wide, trodden firm. On this the melon can be planted and made as firm as possible; then as the roots

appear on the surface more soil can be added, making firm as before. This is a better method than making up the whole bed at once, as it keeps the plants continually running into fresh soil, and affords a better chance of feeding at the proper time.

The plants should be placed about 15 inches apart, and supported with a stake to the bottom wire of the trellis; allow them to run three parts up the trellis before stopping, then the points may be pinched out, and any laterals at the bottom may also be pinched; then the sub-laterals from these and the laterals further up will bear female flowers at the same time.

The female flowers must be pollinated to ensure success. The method of doing this is too well known to need detailing. It is advisable to execute the operation about mid-day while the sun is bright and warm. The fruits should be, as far as possible, set about the same time, otherwise some of them will be in advance of the others, making an uneven crop, and the earlier ones will rob the later ones of much nourishment, besides causing inconvenience to the cultivator in the way of treatment.

When the fruits are swollen the size of a pigeon's egg, pinch the laterals one or two leaves beyond the fruit, and keep all subsequent growths pinched at one leaf, and never let the plants become overcrowded. When the fruits are two-thirds grown, support them with nets from the trellis.

Throughout the growth of the melon, except just while fruit-setting and ripening are in progress, abundance of moisture must be maintained in the structure. Syringe the plants morning and afternoon, and frequently damp down the house. Admit air on all favourable occasions, but carefully avoid cold draughts, and see that the house is closed down early in the afternoon. The syringing and damping should be discontinued while setting is in progress, especially in the mornings; and again, when the fruits begin to ripen, atmospheric moisture should be much reduced as well as the water supply at the roots. A night temperature of 65 to 70 degrees should be maintained, rising to 85 degrees in the day-time throughout the growing season. About four fruits to a plant yields a nice crop of medium fruits.

Melons may be successfully grown in frames, but this method is not on the whole so reliable as house culture. However, where such has to be resorted to, a hot-bed should be prepared in April of stable litter and leaves, about three feet deep, to ensure an equable lasting heat. On this form ridges, as already advised, bringing the ridge well up to the glass. Plant melons as before, but these should be pinched when they have made two rough leaves—the result being two side shoots. Train one to either corner of the light, the after-treatment being practically the same as already advised. Judicious thinning of the plants must be continued. Syringing need not be practised to so great an extent, as these plants will be more liable to rot and canker than the others. Support the fruits of these plants on flower-pots.

Rotting off at the neck is often a worry; to prevent it water carefully at all times, avoiding as far as possible wetting round the collar; to check it, dust round with powdered charcoal. Mildew sometimes appears. Spraying with Bordeaux mixture or Sulphide of Potassium is a good remedy.



## The Rock Garden.

By R. A. MARY.

NOW that we are in the middle of March we are able to appreciate how teeming with life is every part of the Alpine garden. Each day from February onward has seen an increasing amount of flower mantling the varied aspects of the garden and telling us of still greater beauties to come.

One of the prettiest *Saxifragas* which is in blossom now is *Saxifraga Elizabethæ*—the flowers are of a really good yellow supported on crimson stalks, rising from a dense cushion of hedge-hog like foliage, are very welcome and attractive.

Some growers find this *Saxifraga* somewhat irregular in its flowering—sometimes doing fairly and at others being comparatively shy. With me, however, it does not show this tendency, and usually gives me a good display.

It seems to appreciate very gritty soil, and I grow it in a S.E. aspect in the following compost: Three parts of broken brick or sandstone chips, one part each of loam, leaf-mould, mortar rubbish, and sand, the whole bed being not less than 15 in. deep and well firmed.

Now, too, is the flowering time of *Bulbocodium vernum*, that pretty rosy purple spring meadow saffron. Its colour makes a welcome change to the prevailing blue of the *Chionodoxas*, and *Scilla bifolia* and *S. sibirica*.

This *Bulbocodium* is, I think, at its best planted in irregular shaped drifts in the rock garden, while here and there small clumps look well under the lee of a stone, where the sharp March winds will not whip them and so destroy the dainty flowers.

Any ordinary well-drained soil, such as we find in most Alpine gardens, seems to suit this little plant, provided the situation is a sunny one, and I find the bulbs increase fairly rapidly. It is astonishing how very soon after its dark bronzy point of growth appears through the soil, the flowers open, coming direct from the sheath without any foliage.

Just now, too, the greyish-green rosettes of *Primula farinosa* are opening their shell-like growth and show-

ing up their farina-covered stalks, terminating in a whorl of rosy flowers—especially such plants as are on the sheltered side of some bay, where in semi bog soil they catch the sunshine.

From the dark tufts of last year's foliage the *Edelweiss* is pushing out its silvery points of new growth, giving us quite a study in black and white. It is strange that this little plant should be thought so much of, particularly as it is more curious than beautiful, and quite easy to grow in our lowland gardens.

Like most silvery foliage plants, it appreciates a sunny position and a limy soil with an abundance of grit in it, and looks well projecting from some crevice between two stones. When in June the white flowers

of a flannel-like texture appear (or to speak more exactly, the yellow groundsel-like flowers, enveloped and surrounded by whitish bracts), it is quite an interesting plant, especially to visitors, who seem to be under the impression that precipitous cliffs at a great elevation are necessary for its successful cultivation.

At this time relatives of the *Edelweiss*—viz., *Antennaria tomentosa* and *A. dioica rosea*—are showing the silvery points of their new growth, protruding from



Copyright]

*DIMORPHOTILICA AURANTIACA.*

[Sutton

See page 54.

the rosettes of somewhat dirty leaves which have withstood the storm and stress of winter.

These, too, are both excellent plants for a position near the steps, or stepping-stones, in the rock garden, since they are close growing, and do not greatly object to be trodden on now and then, while in the summer the dazzling silvery carpet they make, especially when surmounted by the pretty pink flowers in the case of *A. dioica rosea*, is very attractive.

The steep slopes seem to suit the *Antennaria* best, where they can creep over sun-baked stones, thereby keeping their silvery growth away from the soil, which in winter seems liable to cause decay. Provided the soil is gritty, they do not seem particular as to its composition.

On the moraine, or in moist gritty soil, *Sax. oppositifolia* is a sheet of rosy purple, now that its large



solitary flowers are open, rising almost stalkless from the minute trailing dark-green foliage.

With me the *S. oppositifolia splendens* is particularly pleasing, and if given a copious supply of water during the summer and a fairly exposed position, thrives apace. The white form makes a pleasing companion to this, though with me the flower is more scanty and not nearly so large.

That early gem, *Anemone Pulsatilla*, is just throwing up its flower stems, and is most beautiful in every stage, covered as it is with soft whitish silk. It seems almost too dainty a growth to push its way through the dark moist soil at this bleak time of the year.

If planted in particularly limy soil with plenty of grit, and in almost any position, this lovely *Anemone* is a robust grower, and will charm us with a number of its violet-blue nodding flowers, increasing in number year by year.

In the semi-shady portions of the garden, the beautiful mottled leaves of the Dog's-tooth Violets are now opening and disclosing the flower-buds, and on bright days the soft pinkish flowers open and disclose the dark anthers.

The common *Erythronium* is really a lovely plant, and when seen in colonies coming through a carpet of, say, *Sax. aspera*, it is delightful. The moist leafy soil in which this *Sax.* delights suits the *Erythronium*.

## The Japanese Quince and other Species.

By J. W. BESANT, Royal Botanic Gardens, Glasnevin.

**CYDONIA japonica** (introduced in 1815) is one of the most beautiful early flowering shrubs in cultivation. Perfectly hardy and free-flowering, it is worthy of inclusion in the choicest collections. Cultivation presents no serious difficulties—a free, loamy soil and a sunny position being perhaps best calculated to produce abundance of flowers. When grown as a bush, from six to eight feet may be taken as the average height of mature specimens, though this is occasionally exceeded under favourable conditions. Its comparatively slow rate of growth makes the Japanese Quince an admirable subject for small gardens.

As a wall plant it is unexcelled for early and free flowering. When grown in this way the height may be greatly increased by extending the leading branches.

The flowers are produced on spurs much in the same way as those of the apple, to which it is closely allied. Pruning should take the form of thinning out where the branches are crowded so as to admit abundance of light and air, thereby ripening the wood and inducing the formation of flower buds. It is the nature of the plant to make short-jointed, floriferous growths, so that in established specimens little more than an annual regulation of the shoots is necessary, and in the case of wall plants, laying in such as are required for extension.

Young plants may be rather more severely cut back for a year or two, until a sufficient number of shoots have been produced, to ensure a well-formed specimen, thereafter treatment may proceed on the lines indicated. There are numerous varieties in cultivation, ranging in colour from deep dark red to pure white. Good

varieties are:—*C. japonica atrosanguinea*, deep-dark red; *Extus-coccineus*, pink; *Moerloesii*, bright red; *nivalis*, pure white; *Princeps*, red; *Cardinalis*, deep crimson; and *Simoni*, a dwarf form, also deep crimson.

Maule's Quince (*Cydonia Maulei*) is of more recent introduction, having been in cultivation only since 1874, when it was introduced by Messrs. Maule and Son, of Bristol. It is very closely allied to *C. japonica*. Indeed, the late Sir Joseph Hooker, when discussing it in the *Botanical Magazine*, was inclined to look upon it as little more than a cultivated form of *C. japonica*; nowadays, however, it is generally looked upon as a distinct species. Of dwarf habit and bearing large, orange-red flowers, *C. Maulei* is an admirable shrub for the rock garden, giving a welcome display during early spring months. There are one or two desirable varieties—namely *C. M. alba*, with white flowers; *C. M. atrosanguinea*, dark red; and *C. M. superba*, bright red.

The Chinese Quince, *Cydonia sinensis*, is not so well known as the two previous species. There is a considerable family resemblance in all the species of *Cydonia*, but young plants of *C. sinensis*, which have been in cultivation at Glasnevin for some years, appear likely to attain larger dimensions than either the Japanese or Maule's Quince. According to the *Botanical Magazine*, where it is figured at Tab. 7988, *Cydonia sinensis* was first noticed by Lindley about 1825. The flowers are pink, the leaves ovate and sharply-toothed, fruits large, rather pear-shaped, and yellow when ripe.

The Common Quince, *Cydonia vulgaris*, is perhaps more familiar to gardeners as a dwarfing stock for pears than as an ornamental shrub; indeed, for the latter purpose it is inferior to most of the other species. About its native country little seems to be known with certainty, although the *Treasury of Botany* states that, "According to the best modern botanists, the species grows spontaneously on the hills and in the woods of Italy, in the south of France, in Spain, Sicily, Sardinia, Algeria, Constantinople, the Crimea, and in the south of the Caucasus." Reference is also made to its being found in India, on the authority of Drs. Roxburgh and Royle. Under cultivation, the Common Quince flowers later than the two first named species and less abundantly, the flowers being pink, produced at the end of short branches. As a fruit tree, the Quince does not seem to be seriously cultivated in these islands, though in the warmer countries of Europe it appears to be considerably utilised in various confections.

*Cydonia cathayensis*.—This Chinese species is perhaps the least well-known of the *Cydonias*. Fruits were received at Glasnevin some years ago from Canon Ellacombe, and from the seeds a number of young plants were raised. These, though still small, are quite distinct from *C. sinensis*, with which this species was at one time confused. The leaves are long and narrowly lance-shaped, and the margins finely toothed. Flowers have not been produced on the Glasnevin plants, but the fruits received were large and handsome.

The various species of *Cydonia* are propagated by seeds which are often produced under cultivation and by layering. Varieties are also readily increased by layers, and purchasers should insist on being supplied with own root plants, otherwise it is impossible to keep the varieties true owing to the innumerable suckers produced by root-grafted plants.

## Streptocarpus.

By MICHAEL CONWAY.

SO much attention has within recent years been directed to raising good strains of *Streptocarpus* that they are well worth providing a place for in the greenhouse, being of simple culture, once past the seedling stage, and requiring but ordinary accommodation. A few remarks on their management may help the novice to successful results.

The present is a suitable time for sowing seed to have plants to flower during the late winter and spring months. The seed being very fine, great care is necessary in sowing. First prepare a shallow pan or box, putting in good drainage, afterwards filling to within a quarter of an inch of the rim with a mixture of loam, leaf soil and sand (half loam to quarter each of leaf soil and sand), passed through a quarter-inch sieve, making the surface level; then give the soil a good watering with a fine rose can; allow this to drain, and the pan will be ready for sowing.

A good plan to distribute the seed evenly over the surface is to mix it with a pinch of fine dry sand either in the seed packet or on a small square of paper, the sand mixed with the seed will be sufficient covering. Place a square of glass over the pan or box, which must be placed in a warm pit or on a hot-bed having a temperature between 60 and 70 degrees. Shade from the sun's rays until the seedlings appear, when they may be gradually exposed to the light and kept as near the roof glass as possible, still shading during the brightest portion of the day.

When the seedlings are fit to handle, which will be in about six weeks from sowing, they may be pricked off

into pans or boxes about two inches apart, using a similar mixture, only not quite so fine. When the leaves attain a size of three or four inches they may be potted singly into four-inch pots, adding more leaf soil or finely broken cow manure to the mixture, which, according to the strength of the plants, may be used more open or fibrous. The plants may now be removed to a cold frame, syringed early in the evening and closed up with sunheat.

Keep the flowers picked off until the plants are well established in their flowering quarters, which will be five or six-inch pots. In September they may be removed from the cold frame to the greenhouse, keeping plants as near the glass as possible, when they may be encouraged to flower by occasional application of weak liquid manure. After the flowering period is over the plants should have a rest of a month or six weeks, keeping them on the dry side, after which they may be taken in hand again, shaken out and potted up, using pots according to the strength of the plants, keeping indoor until the weather permits their removal to a cold frame. After syringing, the frame should always be closed with sunheat in evening. With



A STREPTOCARPUS HYBRID.

the above treatment the plants will respond to the attention given by brightening the greenhouse during the dull months with many charming flowers in almost endless variety of colour.

The *Streptocarpus* is known as the Cape Primrose, growing wild in Africa and Madagascar. The plant derives its botanical name from the capsule or fruit being spirally twisted; streptos, twisted, and karpus, a fruit. When ripe, the spiral of the fruit partly unwinds and the seeds fall out. The seeds are arranged upon a ridge of tissue on the inner wall of the capsule.

## Roses.

By O'DONEL BROWNE, M.D.



**B**y the first or second week in April all pruning should be finished. Even the most delicate Teas should have had their toilet done. In pruning Teas one must consider whether quality or quantity of bloom is required. If quality, then use your pruning knife or shears with a hard hand, whereas if quantity be your object, then use your knife with a lighter hand. Teas are apt to get into a scrubby condition, making several twiggy growths clustered together. This scrub should be well thinned or removed, likewise all the unripe and dead shoots. This leaves you with shoots which are ripe or very nearly so. Now shorten these growths to about one-third their length, always cutting to an out-looking eye. Another habit Teas have is to grow in

a somewhat spreading condition. These rods should be pruned to an uplooking eye to try and coax the coming shoot to grow upwards. Give your beds a very light forking over, and then apply a good dressing of some of the artificial manures which are extensively advertised in this and other gardening papers. Be careful of the foliage, as some chemicals are very liable to burn the delicate pushing buds. Hoe this manure in, and when applying be sure you pick either a very calm day or one when rain is actually falling. Soot applied to your Tea beds enhances the colour and is in itself a manure. I usually mix my artificial manure with the soot, and I never use the same kind of manure two years in succession. Old rose beds in gardens require a heavy dressing of lime to help to sweeten the soil from the oft-continued top-dressings of manure, which have been put on as mulchings. Teas are not much given to mildew, but some varieties are subject to it, and if you find a shoot at pruning time with mildew you should cut that rod away. When the summer sun hits these rods the spores of disease will burst, and you have the infection set free. Beware of shoots which have pushed. Some are alright, but the majority are blind—that is, their growing centres are gone or are blighted by the frost. Those that are hit will grow no more; those that are growing are apt to give split or quartered blooms. Inasmuch as we are to have a show in July in Dublin I would urge you to prune hard and heavily, as weak, delicate flowers are no use for the shows. It is true that Teas do not properly get into their fighting trim until the second bloom, but were any of my readers to see the flowers put up by the small growers in

England at the National Rose Show it would surprise them. When growth is well under way keep your beds hoed often: nothing conduces more to health than the hoe. Also, in hoeing your beds you pass your trees often and you are more ready to notice greenfly, suckers, grubs, &c., which are easiest to check in their infancy. Rarely do I get greenfly on my beds, but my wall roses are very liable to be attacked. I lay this down to two reasons—1. Less pruning of climbers. 2. Protection from rain.

## “The Irish Cup.”

**I**N response to the appeal made by the Council of the Royal Horticultural Society of Ireland, the members responded liberally, and expressed approval of the proposal to present an “Irish Cup” for competition at the Royal International Horticultural Exhibition. The Council selected a very handsome Cup, manufactured by Messrs West & Son, of Dublin. The Cup is an exact copy of the old Irish Moira Cup. This has been offered for competition in Class 252, a group of hardy flowering and foliage plants arranged for effect, 400 square feet. Sufficient funds have been subscribed to enable a second or minor Cup to be presented also in a class for hardy plants. The particular class to which this cup is to be awarded has not yet been decided.

Among the advertisements on page xi. will be found particulars of entrance fees, &c., for the Royal International Horticultural Exhibition.

## Lime.

A GARDEN question often asked is, “Does my soil require lime?” An answer is easily found by getting a sample analysed, but one can test one's own soil in a rough and ready way by the following method: Take a number of small samples from the garden or plot and mix them well together. Place part of this soil in a basin and pour on to it half or a quarter of a tumbler of muriatic acid. If the liquid fizzes and bubbles freely the soil contains plenty of chalk, but if, on the contrary, it does not fizz, then one can say, “My soil requires liming.”

Lime is best applied in autumn, but it often happens that the ground is under a crop which is not cleared until spring. Slaked lime evenly distributed is best for a spring application at the rate of four ounces to the square yard; in autumn double this quantity might be applied with safety and benefit.

In rich garden-soils, where vegetables are grown, and where farm-yard manure has been applied for many years, lime will produce the most remarkable results, and such soils should receive a dressing once in three years.

Lime is a necessary element in the food of most plants, although its great use is its power of decomposing animal and vegetable substances, and thus changing them to a state fitted for food to the plant. On the other hand, if poor soils were limed which are partly wanting in humus they would soon lose their productiveness unless manure was freely added the following years. Also lime is distasteful to some Conifers and is poison to such plants as Rhododendrons and the Heath family.



## Hints to Amateurs.

**I**VY. All ivies, whether on walls or in the open, may now be pruned. This can be done with a sharp pair of shears, cutting the plants over closely. If on a wall, growths may be left to fill up spaces or to increase the height; but if the plants have reached the top of the wall, clip them close and level with the top. Unless this is regularly done, as the shoots lose the support of the wall, they form thick growths, which flower and then bear the handsome but heavy black berries, and the top is then easily loosened from the wall in high winds, bringing the whole thing away. By pruning now, none of the advantages are lost, as we have had all the bright, glossy, green covering for our walls during the dark winter months. Growth is now active, and the clipped, bare appearance will very soon be covered with fresh young leaves.

**Box Edgings.**—These may also be trimmed to give them a tidy, spring-like appearance. Clip both sides first with a sharp pair of shears and then go over the top. Sometimes a scythe is used, and the shears only used to finish the top. When box edgings have been kept regularly cut and not allowed to grow broad and unsightly, very little pruning will be required now, and it will also be found that when kept neat and tidy they really harbour very few garden enemies. As to snails, they are not very particular where they make their abode, and box-edging is no worse than any other edging. It is a mistake to cut box too early in the season, as it is easily damaged by frost. April will be found quite time enough.

**HERBACEOUS PERENNIALS.**—Hardy perennials, which have grown too large for their quarters, and hence are crowding out more delicate stuff in the borders, may be divided; but this should be done at once, as the plants are beginning to make rapid growth. Lift and divide the clumps carefully, and where necessary give some good manure. When replacing, remember that it is the outside portion of the clump that is the strongest and most vigorous, and this part should be kept. The centre portion is old and exhausted and of very little use.

**LAWNS.**—These should be swept and rolled before the mowing machine is put on them for the first cutting, so

as to remove all roughness and stones which would damage the blades and to level down worn casts. Where the grass has grown thick and strong the first cutting should be done with a scythe. With a little care moss can be removed from lawns, and this may be done now by raking with an ordinary short-toothed garden rake. The work is tedious and hard, but it is worth trying. Give a good rolling when it is done; if the moss has been thick, and therefore when removed leaves the grass too thin, little fresh seed may be sown and protected from birds.

**PICKING DAFFODILS.**—If daffodils are to be sent any distance or dispatched by post it is a good plan to gather them while still in bud, not of course in a tight bud. When put in water these will open and last fresh much longer; it also prevents the flowers being damaged in packing, and the recipient receives them in better condition altogether. After picking, place them in water for an hour or so, then let them drain, and so prevent the parcel becoming saturated with the thick liquid which oozes from the cut ends. When packing in boxes remember to pack closely and firmly, so that the flowers cannot move about and get shaken in transit.

**GREENHOUSE GERANIUMS (ZONAL PELARGONIUMS).** Cut the old plants back now and put in a batch of cuttings of the moderately strong growth, which, if grown on in a bright, airy house, will give flowers during the coming winter. Rub out any flower buds



"THE IRISH CUP."

that may be showing, and with a clean, sharp knife make a straight cut just below a joint; insert these cuttings either singly in three-inch pots or several round a larger pot; make them firm in a mixture of loam, leaf-mould and sand, and give a good watering. The old plants may either be kept and let break again or may be thrown away.

To keep up a succession of bloom in a greenhouse, however small, entails a little thought and attention. There is very little credit to any one to purchase flowering stuff to fill their greenhouse, and now is the time to arrange for the autumn and winter display.

**PRIMULAS**, such kinds as *P. sinensis*, the Chinese Primula, in white, heliotrope, red and pink colours, and *P. stellata* in white and red, and *P. obconica*, may all be sown now in a little heat. Moisten the soil in the

pan or pot before sowing, and place in a shady part of the house covered with a piece of glass, which should be removed as soon as the seeds germinate. *P. obconica* may be kept from year to year, but more vigorous plants are obtained from sowing annually. P.

## Correspondence.

DEAR SIR,—I was interested to read in last month's issue Mr. Malby's article on Moraines, but I think his is a counsel of perfection, as in most parts of Ireland one can achieve success with far less trouble than he outlines. I made my first moraine here shortly after the publication of Mr. R. Farrer's "My Rock Garden," and framed it on his "old moraine," but it has not been an unqualified success—firstly, I think, because the broken slate, of which it was composed, was not small enough, and, secondly, I was too generous with the soil, but since then I have made others which have succeeded admirably. The largest is composed of limestone crushed chips (from a steam crusher), about two feet deep, with a mere smattering of soil through them, and a drainage bottom of rough stones of another two feet. The whole slopes down from a low retaining wall to the terrace beneath, and mostly faces full south. This is all—no concrete trough, no drainage cock, no water supply, and yet in it flourish many difficult plants—*Campanula Allionii*, *C. rupestris*, *Anemone Lyalli*, *Pulsatilla alba*, *Draba dicranoides*, *Dianthus alpinus*, *A. D. cal-alpinus*, *D. integer*, *D. Freynii*, *D. sylvestris*, *Douglasia vitaliana*, *Viola cenisia*, *V. oreocallis*, *Edrianthus pumilio*, *Petrocallis pyrenaica* and its white variety, *Thlaspi cepeaefolia*, *T. rotundifolia* and *T. bellidifolia*, *Townsendia Wilcoxiana*, and all the eastern red-flowered *Saxifragas*; on one *S. thessalica* I counted nine heads of bloom recently, and the plant is only 3 years' old. I only watered the moraine once throughout last torrid summer, and I don't think even that one watering was absolutely necessary, and I am certain that in this Irish climate at any rate, so long as the drainage is sharp, that is all that is necessary to provide for; the plants do not get too wet in the winter or too dry in the summer, and except *Campanula excisa*, which has failed twice, I do not find the lime-haters particular as to the composition of the moraine, they grow quite freely here in pure limestone.

MURRAY HORNIBROOK.

DEAR SIR,—I have recently noticed in a gardening paper an article on the possibility of growing Sweet Corn in the British Isles. A few years ago I grew a few stalks (from seed obtained from Messrs. Burpee) at Shoeburyness, Essex. Last year I grew here a good row each of Burpee's "Golden Bantam" and "Howling Mob"; both were a great success, bore very well, and were delicious. Personally, I preferred Golden Bantam—the cobs are smaller, but the core is smaller still, and it is very sweet. I planted in the open at the same time as main-crop peas, soaking the seed before planting. As far as I could tell, practically every seed came up, and I had to thin out a great number. Having eaten Sweet Corn in India, South Africa, and at home, I knew how to appreciate the high quality of these two varieties.

G. S. C. CORE.

## Aubrietias.

AMONG the dwarf plants which grow equally well on border or rockery, few can compare with the Purple Rock Cress and its varieties for wealth of flower and colour.

On a dry wall, hanging down in masses, it is seen to perfection, and will often flower as early as February when it has a southern exposure. To establish in these conditions, either sow the seed in the chinks of the wall or put out very small plants. On the rockery or a dry bank, or in front of the herbaceous border, it is equally at home, and also makes a good edging between stones; if it grows too large it will stand cutting back after the flowering is over, and will again form a dense green cushion by the autumn. Seedlings are easily raised, but the good varieties are propagated by cuttings inserted under a cap-glass in autumn or spring.

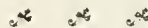
The question of the best varieties is a debatable one, and will vary according to taste. Among the purples I still prefer Dr. Mules, the colour is so rich, deep and clear; the habit is very compact, and the plant has a good constitution. In spring the flowers often completely hide the foliage. On the other side, it is said that the new Aubrietia, Lloyd Edwards, will now reign as the purple emperor of the family; not having seen this variety in flower I cannot discuss its merits, but the same was said of Pritchard's *A1*, the flower of which is certainly slightly larger, but the habit is looser, and the colour, I think, is not quite as good as Dr. Mules, and I still prefer the older variety. Mr. Anderson, at the Phoenix Park, still believes in the old *A. Hendersoni* as a carpet for bulbs, for he finds that it stands the necessary transplanting incumbent with spring bedding subjects better than any other purple Rock Cress. *A. deltoidea cilicica* is a soft pleasing shade, and is one which always attracts me. Other purples, which I would place second to those mentioned above, are Purple Robe, Craven Gem and Wallacei.

Fire King, raised by Messrs. Barr and Sons, is probably the best of its colour, a good, bright magenta, sometimes described as crimson; we badly require a good crimson which does not fade as the flowers age.

Another want is a really good white Aubrietia. Two varieties, often described as whites, do not come up to expectations; *Aubrietia antilibani* is a poor thing, and *A. tauricola alba* is certainly better, of a neat dwarf habit, but the flowers so soon change to pale lavender.

*Aubrietia Moerheimi* has flowers of a soft pleasing pink; although in some gardens it does exceedingly well, yet in others it is inclined to die out, showing its constitution is not too strong. *A. Lavender* is well named and is a decided addition to the family, and well deserved the award of merit which it received.

"PADDY."



"You will find that luck  
Is only pluck  
To try things over and over;  
Patience and skill,  
Courage and will,  
Are the four lucky leaves of the clover."

## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.



THE many occupants of the flower garden which have been planted and tended during the past winter, with the object of a spring and early summer display, will now begin to look gay. By the middle of this month many will be in full bloom, so that the flower garden will once again be a source of pleasure to its owner.

Grass should be kept mown, beds and walks should be cleaned, and a neat and tidy appearance should be maintained throughout the garden. Creepers on walls, pillars and arches will require frequent attention. Many such as Clematis, Lonicera, and others will now be growing freely; their young growths must be secured in the direction they are intended to go, and encouraged to fill their allotted spaces as early as possible.

Stakes should now be ready for Delphiniums, and many of the herbaceous Peonies will also require supports, as they are apt to suffer from strong winds.

Sweet Pea, raised in pots and planted out last month, can now have their final stakes placed to them, and a sowing for succession can be made. Sow Mignonette, Clarkia, Godetia, Nemophila, and such annuals as transplant badly, in the places where they are to flower. Pick out and encourage sturdy growth in those plants which last month were recommended to be raised in a little heat. A careful inspection of all the plants required for summer and autumn display should now be made, and if short of any kinds, measures must be taken to raise the required number.

Dahlias propagated from cuttings should be potted on and grown in full light in a frame, so that they will be strong and sturdy by planting time. Should the weather be dry, all annuals must have sufficient moisture supplied to them, otherwise they are likely to become hard or stunted, and will be disappointing.

Hyacinths in beds or borders will now be well advanced; a small stake should be placed to each flower spike; tie loosely so as to allow the flower spike to grow up, otherwise many of the finest blooms are lost, being broken by wind or heavy rain.

It is now time to prepare beds for violets, of sorts, by pulverising the soil to a depth of fifteen inches, and adding a good dressing of old cow-manure. When the beds are quite ready, the cuttings which have been rooted in frames can be planted firmly; nine inches apart will suit the double sorts. Singles, such as La France and Princess of Wales, will require more space. The best results will be obtained from cuttings taken from runners, the same way as strawberries, as their

roots will all be new and so produce more vigorous plants than those increased by division. However, if a stock of young plants has not been rooted, divided plants must be relied on; if so, choose the youngest pieces which have fresh roots, plant them firmly in prepared ground where they are to be grown, and give a good watering; later on much benefit will be gained by frequently stirring the surface soil; this will also prevent weeds increasing.

### The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath,  
Killruddery, Bray.

**FIG CULTURE.**—In the majority of private places figs are found growing on the back wall of a vinery. Though I admit that this is by no means an ideal position I still contend that they can be successfully cultivated under the above conditions. Of course a special house would suit them much better, and sometimes in large gardens it is quite feasible. Always bear in mind that figs require plenty of light and air. When they must be produced in vineries you need not train the grape vine to the top of your house so as to exclude the sunshine. After fruits are formed tie in all leading shoots that are needed, and stop the laterals at the second or third leaf, according to what vacant space you have on the wires. Keep them free from greenfly, spider and scale, also drainage sweet and clear from stagnation. If the above details are all carefully attended to, then you may with advantage supply them with plenty of manure, both liquid and artificial. For the last three or four years prices for figs in Dublin have not been quite so remunerative, but still high-class fruit will fetch from 3s. 6d. to 5s. per dozen. Previous to that I often obtained in the open market 10s. per dozen for large, ripe figs, grown on walls in vineries. Then you can manage to get a second crop from the same trees in one year; naturally, they will be smaller fruit, and though, perhaps, unequal for dessert purposes they can be used with advantage in various other ways by a good cook.

**HARDY FRUIT.**—Presuming that the instructions given in my previous notes have been carried out, your trees will now be ready for "growing," and with the abnormal amount of rain during February and early March all old established trees are now thoroughly saturated, and they will not cause much trouble for some time. If the beds commence cracking scatter lime over them, and cautiously stir the surface. Continue giving protection to delicate blossoms with tiffany or other suitable covering on cold, frosty evenings; also make sure that all freshly planted standards are firm in the beds, and securely tied to prevent them being shaken. It is most important that all trees are correctly labelled. Attend to newly grafted trees, and replace the clay or grafting wax if it has dropped off. In case of parching winds some grafts may require to have moss tied over the clay for retaining moisture about them, and breaking the hot rays of the sun. See that apricots and peaches do not become too dry at the roots. When they are mulched a plentiful supply of water will wash down all nutritive matter, so that the root extremities may feed



and reap its benefit. Cordons of various kinds will also be greatly improved by the above treatment. I notice that fruit trees in several gardens in this neighbourhood are looking very promising, and with favourable weather our Editor will be able to present the public with a glowing report at the end of the year. Morello cherries are showing splendid blossoms. Indeed, they are now a perfect picture, and I hope will form plenty of fruit, for coming late after many other things have finished they are always invaluable for the dining-room.

## The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor, Co. Kildare.

**T**O those that would excel in the growing of vegetables, either for home use or exhibition, this is probably the most important month of the year. Every opportunity should be taken this very wet spring, when the ground is dry, to get the work recommended for last month done; also study vegetable calendar, given in last month's IRISH GARDENING, for time of sowing and best varieties. The past month has been generally wet and cold, so that slow progress has been made in many gardens in getting in crops on account of the bad weather; still we had some fine days, and where the chance was not allowed to slip, many kinds, such as onion, parsnip, peas, and broad beans, have been got in. Many gardeners, amateur and professional, sow such seeds as onion, lettuce, and all the Brassica family broadcast, and such must be kept clean by hand weeding, which is tedious and expensive. In sowing I prefer sowing the seeds in lines, about one foot apart, as then the hoe can be used between the lines and the ground kept clean, and the more the surface soil is stirred the better the crop will do.

**SPRING CABBAGE** is much benefited by a dressing of nitrate of soda, a teaspoonful to each plant. Winter spinach should get a dressing of soot and wood ashes mixed; hoe the ground constantly between the above crops to keep down weeds, &c., for once let annual weeds seed it will be very difficult to keep the crops clean during the rest of the year.

Plant out during the month as the ground and weather permits such crops as cauliflower, lettuce, onion, leeks, and Brussels sprouts raised under glass, but be sure and have them well hardened off before planting, which is best done in dull or showery weather.

During this month make several sowings of mid-season peas and a couple of sowings of broad beans in ground deeply dug or trenched and well manured. Also sow cabbage, cauliflower, Brussels sprouts, if not raised earlier, leek and early broccoli, leaving late broccoli, Savoy and broccoli or kale for sowing the first week of May.

**VEGETABLE MARROW.**—This is a crop that if obtained early, is much relished, and, again, the earlier the plants begin to fruit the more marrows will be gathered ere the plants are cut down by frost. Early in the month sow three or four seeds in five-inch pots filled with good rich soil, and place on a mild hot-bed where the seeds will germinate quickly; if carefully hardened

off they can be planted out about the middle of May, and kept covered at night by boxes or, better, hand-lights.

**HERBS.**—These are very much required during the past few years, and a sowing of the most useful should be made during the month, such as thyme, sage, parsley, marjoram and mint, which is propagated by division of the roots; and also cuttings of the young shoots, which strike freely in a close, warm frame. All the seed of herbs may be sown in lines one foot apart, on a warm, rich border, and can be thinned or transplanted when the seedlings are large enough.

**SPINACH.**—Make a couple of sowings of Victoria Round during the month, as the plants soon run to seed in warm weather. Where spinach is constantly required a sowing of spinach beet should be made early in the month, and this can be thinned and transplanted in lines one and a half feet apart and ten inches from plant to plant; it is most useful during the autumn and winter.

**POTATOES.**—Plant the main crop of potatoes as early in the month as ground permits in drills two and a half to three feet wide; it is a great mistake to make narrow drills. In old garden soils or those very rich a good dressing of warm lime will be found a great benefit, not only in the increased quantity of the crop, but also in the better eating quality of the potato. Leinster Wonder and White City are two varieties of recent raising that I have formed a high opinion of last season, the small quantity of each grown being free from disease and of good eating quality.

**FRENCH AND RUNNER BEANS.**—About the end of the month a sowing of dwarf and runner beans can be made in warm, rich soil; if sown earlier the seed decays in the ground or the plants get killed by the frost in May.

**ASPARAGUS.**—Where beds of this much prized vegetable are to be planted this month, they should be prepared at once, and left to settle before planting, which is best done in showery, mild weather. As asparagus roots grow in a horizontal direction, don't bundle the roots into a small hole, but open large ones, and spread the roots out, having the crown of the plant about one inch under the surface of the soil. In preparing the beds trench 2 to 3 feet deep, mixing a heavy dressing of manure with the soil, cow manure on light soils, and horse manure on heavy ground.



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# Irish Gardening

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ARBORICULTURE IN IRELAND

MAY  
1912

## Cordylines for Irish Gardens.

By THE EDITOR.



MUCH confusion exists in gardens with regard to the two genera, *Cordyline* and *Dracaena*, but it is quite easily understood, for they are certainly very much alike—in fact the main difference exists in the fruits. Both have three-celled ovaries, but the *Cordyline* has many ovules in each cell, whereas the *Dracaena* usually has only one ovule; also the flowers of the latter are usually larger.

These plants are interesting botanically in that they rank among the most gigantic of the Lily order, and they share with the *Yuccas* the distinction of being among the few monocotyledons which have a continued growth in thickness of the stem, this being due to the formation of successive cylinders of meristem in the fundamental tissue, within which vascular bundles are developed.

The common *Cordyline australis* is far hardier than is usually supposed, and will stand 20 degrees Fahrenheit of frost without injury when established. In the People's Garden at Phoenix Park some fine old specimens have stood for many years without protection, standing out boldly by the lakeside. Even in the centre of Dublin, in St. Stephen's Green Park, it stands the smoke and grime of the town without injury, proving its adaptability as a town plant. Wherever conditions are in any way favourable there are few plants grown in the open ground which are more

effective than this Club Palm. When possible a sheltered position should be chosen, although in some West of Ireland gardens it braves the gusts from the Atlantic.

When well established the tall, straight stem advances about a foot each year in height, and on the top of the stem is the crown of strap-shaped leaves; when the flowering age is reached the stem usually branches and forms a head. Although attractive at all seasons of the year, yet the Club Palm is most graceful when covered with its large-branched panicles, often two or three feet across, of small fragrant white flowers, and the attraction is scarcely lessened when the panicles become drooping from the weight of myriads of the milky white seeds. The photograph shows an extremely good specimen in flower growing in Captain Riall's garden at Bray. It was planted by Captain Riall's father about thirty-four years ago, and is now about thirty feet high, with a finely-branched head, and sometimes bears as many as three dozen heads of bloom.

In Colenso's botanical journeys to the North Island of New Zealand he mentions a large specimen in the trunk of which a Maori had constructed a small room in which to keep his basket and tools. It was fitted with a door, and sufficiently high to allow a man to stand upright in it; the tree was living, and was twenty feet in girth at the base. *C. australis* is said to be distributed in New Zealand from the North Cape district to Stewart Island, being most abundant in lowland situations, but ascending to 2,500 feet. The leaves afford a

APR 27 1912



valuable fibre for the manufacture of string and cordage, &c.

The tall, bare stem of the Club Palm forms a natural pillar for climbing plants, and the surface soil a short distance away from the stem may be freely worked, for in light rich soil such as the plant loves, the thong-like roots go down straight and deep. As the plants get old they provide quite a palmy feature to the landscape which is most attractive. When grouped with plants such as the Hardy Palm, (*Chamærops Fortunei*), *Yucca recurvifolia*, *Phormium Cookii*, and the hardy upright form of the New Zealand Flax, the association is most pleasing, the tall stems of the Club Palm rising above a groundwork of such as these suggests quite a tropical appearance.

With young plants in the colder counties it is well during the winter to tie up the leaves to shelter the more tender-growing point, and a mat wrapped around will provide further shelter if necessary. Even if plants are cut down by frost in winter, quite a number of shoots usually push out from the base in the spring.

This Club Palm is very easily raised from seed, and the seedlings often show quite a variation in the length and width of the leaves.

*Cordyline australis* Doucetti is a handsome variegated form, with green leaves edged with white, useful for conservatory decoration. Mr. Beamish, of Cork, has tried it in the open, but it has not proved quite hardy.

*C. australis* De Groot is of Continental origin, rather like an improved Doucetti, with a wider marginal band of white.

Under the name *C. australis* *lentiginosa* two

plants masquerade, both of reddish colour; one is quite a good deep red and the other is of a poor dingy reddy brown. The best form is a really effective plant, and the Editor would be pleased to hear from any reader who has tried it in the open.

*Cordyline australis* in some gardens is still known as *C. indivisa*, but the latter plant is quite distinct, as the illustration will show. *C. indivisa* is by far the finest species in the genus,

but not very common, and unfortunately not so hardy as the common Club Palm. At Castlewella, in Co. Down, and with Mr. Walpole, at Mount Usher, in Co. Wicklow, are good specimens which are thriving extremely well. When flourishing it is a really noble plant, and should be given a sheltered position, or the wind may disfigure the leaves by splitting the ends. The leaves are from four to five feet long by six inches broad, the colour is a pale green above with a strong centre vein of rich reddish brown, while the under surface of the leaf is quite glaucous. It makes a beautiful pot plant,



Photo by]

[C. F. B.

*CORDYLINE INDIVISA VERA*

In Mr. Walpole's Garden, Mount Usher, Wicklow. 6 feet high

but is very fastidious and liable to die off suddenly. If planted out in a suitable position it gives less trouble when given a well-drained soil of loam, peat and sand. In New Zealand this species rarely branches, and grows from five to twenty-five feet high.

*Cordyline Banksii* has a slender stem sparingly branched, and often grows in the form of large clumps. In the milder counties the leaves are as much as six feet in length and two to three inches broad across the middle, and contracted at the base into a long sheathing petiole. The leaves are further characterised by numer-

ous strong veins. At Glasnevin protection is not needed, for it is hardy, except during exceptionally hard winters, which may cut it down to the base. When in flower it is very attractive and strongly scented. The flowers are small

dening purposes it is quite distinct, and is a very decorative subject.

*Cordyline pumilio*, illustrated on page 74, has passed through two winters on the Glasnevin rockery. Although interesting it is not a strik-



CORDYLINE AUSTRALIS.  
In Captain Riall's Garden. 30 feet high.

and white, longer and narrower than those of *C. australis*, borne on a branched inflorescence two or three feet long.

The variety known as *C. Banksii erythrorachis* is of about the same hardiness, but smaller in stature, and is distinguished by the mid rib having a bright red colour. For gar-

dening subject, for the plant is of a small tufted habit, with numerous narrow leaves about eighteen inches in length. Like most of the other species it is said to make fleshy roots full of saccharine matter which were formerly eaten by the Maoris. To the gardener these roots are of use for propagation.



## The Culture of the Daffodil.

By JAMES SHEPHERD, The Gardens, Wells, Gorey.

THE Daffodil, although largely grown in beds and borders, is seen to much greater advantage in the wild garden, amid the natural surroundings of trees and shrubs, or skirting the edge of woodland walks, or grouped naturally in the grass. Almost all *Narcissi* look well and do well in the grass, if you can spare them a corner of lawn or meadow which can be left until the end of June without mowing, for the *Narcissus* leaves must not be cut, but left to die away naturally. They should not be planted stiffly, but in irregularly-shaped patches, each sort in a clump to itself and with sufficient room left between each bulb to allow for gradual increase. Varieties that do well in grass are *Tenby* (*Obvallaris*), *Pallidus præcox*, *Minimus*, *Gwyther*, *Princeps*, *Cervantes*, &c.

The cultivation of the Daffodil is not difficult, but in this, as in most things, there are differences of opinion. In my own experience I have found sufficient to secure a very satisfactory measure of success. As to soil, I find most varieties do fairly well in any kind of garden soil, but if exceptionally fine flowers are wanted the soil is best prepared beforehand. Top-dress the ground with old turfy loam and basic slag, then double dig the whole, letting the ground rest till planting time, then marking it all into four-foot beds, as they are handy to get at for weeding or hoeing, having four lines in a bed. When cutting out the trench for the bulbs add more loam, crushed bones and sand, then plant the bulbs. The depth at which *Narcissi* bulbs should be planted varies according to size, an average covering of soil is about three inches. When planted the bulbs should be left undisturbed for two seasons.

I cannot insist too strongly on the necessity of early planting, if the very best results are to be obtained. There is no doubt that better flowers are obtained from two-year-old beds than from those planted late in the previous autumn and which have not been a year in the ground. Any one can prove this for himself by comparing the blooms from the two-year-old beds and those put down the previous autumn. For show purposes plant early in August, if possible.

After lifting the bulbs early in July, the offsets they have produced may be separated by care-

fully pulling apart. They should come apart quite easily (with a little pressure of finger and thumb); force should not be used or the bulb will be injured.

The bulbs after being lifted should be spread out to dry in a cool, airy place, not heaped upon one another, but spread out in shallow trays or boxes. It is better to lift the bulbs early before they have made new rootlets; if so, they had better be immediately replanted.

The Daffodils for exhibition should be well looked over a fortnight before the show, and any specially large buds collected and put into water, with lumps of charcoal, and kept in a dark, cool and airy room, the water being changed when necessary. At intervals of several days thin slices may be cut off the ends of the flower stalk. This will prolong life a day or two, but the best flowers for exhibition are generally those which are cut as the bud begins to break, about five or six days before the show day, and allowed to open in a moderately warm room. The blooms are then clean and fresh, and free from dust. Careful packing is needed for a journey, and they should be laid in shallow boxes with tissue paper to fill up the empty spaces.

## Old Conna Hill, Bray.

By E. KNOWLTON.

BEAUTIFUL WICKLOW! In our gad-dings through the Green Isle few things have been more pleasantly impressed than wanderings in Wicklow, nor any pleasanter than a visit to the grounds and gardens of Old Conna Hill, Bray, the residence of Captain Riall, D.L. And beautiful Bray! that is, its magnificent natural surroundings. Why this quiet resort, with its long, lonely sea promenade, should have ever been called the Brighton of Ireland we do not know, for the the sunburnt, blatant old Brighton of Sussex sheds no lustre of association, in our mind, on the quiet, little town with the big, big Head, and—but no matter, we want to talk of a Bray garden—have been asked to, in fact, and it's all pretty fresh in memory, although we had ample evidence early in March that the *Mimosa* which Captain Riall had planted has since grown apace. It was then little more than a bush—that is well on for three years ago—now it is well on for thirty feet high, sufficiently luxu-



riant, in fact, for Captain Riall to have treated us to an armful of the profusely-flowered branches, compared with which imported sprays then coming to Dublin from the Riviera were poor. We think the climatic character of Old Conna is pretty well summed up in that magnificent *Mimosa* which, correctly speaking, of course is not a *Mimosa*, but *Acacia dealbata*, the Australian Wattle, a tender greenhouse subject in most gardens, but exuberantly happy in the open at Old Conna. But the gardens of Old Conna are gardens with a history, and eloquent of it in quaint old-world pleasaunces divided by massive Vew hedges, the most conspicuous feature of one division being the first *Cordyline australis* planted out in Ireland — a healthy, hydra-headed, old warrior, well on for forty feet high, with a stem girthing over six feet near the ground. But, as most wanderers in Wicklow are aware, it is a *Cordyline* country, many specimens here being but little less in size and also providing the dominant feature in Lord Plunkett's picturesque demesne, at hand. Our visit to Old Conna was in June, just in time to miss the full flush of *Rhododendrons* in quantity, of which some of the Himalayan species had been very fine. But we were right for an enormous bush of Andre's broom in all its glory of red and gold, and which swept to extinction anything previously seen of its kind, and then there was a wealth of *Roses* on the walls, including a veteran old yellow *Banksian*. *Magnolia Watsoni*, too, was regal in its creamy white blooms, seven inches across, with the reverse of its guard petals in tawny buff, but for interest and characteristic

beauty we gave the palm to a big bush of *Crinodendron Hookeri*, glowing with a mass of its rich, red, pendant flowers. Comparisons, however, may here be invidious, for on the walls and elsewhere we found *Habrothamnus fasciculatus*, *Swainsonias*, *Jasminum primulinum*, *Dendromecon rigidum*, and among lesser things *Veronica Lavaudiana*, *Geranium Lowii*, *Calceolaria violacea*, and a colony of *Primula japonica*, the latter in a semi-wild spot with a great clump of the palmate Bamboo.

grown almost out of knowledge in its eight feet height, and just at that time big bushes of *Abutilon vitifolium* were decked with its soft, lavender-blue blossoms. Other things of that order we could mention galore, but candidly confessing to a strong weakness for trees the collection here was responsible for a good deal of attention. Among the *Coniferae*, the Mexican Pine, *P. Montezumae*, was probably the most distinguished, but *Abies Morinda*, the graceful Himalayan spruce, in quantity claimed special attention, as well as giants of



ACACIA DEALBATA.

A Spray from the Tree growing in Captain Riall's Garden.

that ilk in *Abies Albertiana* and *canadensis*. *Cupressus erecta viridis*; a dwarf kind being worthily represented by *Prumnopitys elegans*. All, and more also as we saw them, made unimpeachable testimony to the kindly climate of Bray; and if more was wanted we found it in a hale and hearty specimen of our own species, yeleft one McGarry, a respected servant of the family, who, whilst admitting to ninety-one years of age, seemed happy in giving the information that his father lived to one hundred and four, so he was looking ahead, and we hope is still,

## Native Primulas.

By W. H. PAINE.

**O**WING to the near relation of some species a botanical survey will not be out of place, and of course cultural particulars will form the most important part of our observations, while it is proposed to divide them by locality and not into botanical sections and sub-sections. It is not the writer's intention to pose to know all the species which will be spoken of in the following articles, rather is it that he is collecting information from the sources where certain species are well grown, and to diffuse it to a wider public than perhaps it would otherwise reach. It would, of course, be presumption to state that the cultural notes below are the only way to grow the various species, but, speaking generally, they will form a sound basis for proper culture by varying according to one's own particular locality and needs. I propose to deal with the species that inhabit our islands first, and to deal with the most common as well as the most rare.

*P. vulgaris* (*syn. acaulis*), Europe.—Flowers usually pale yellow, rarely pinkish in nature, numerous, large, aromatic, with flat limb, five lobes, calyx tube inflated; umbels sessile, so as to resemble scapes, spring; leaves obovate-oblong, somewhat hairy, deeply veined, three to six inches long. *P. vulgaris* gives many garden forms, in fact few plants have received more attention from hybridists. Perhaps the most notable success was the introduction of Wilson's Blue, which has given rise to many others that are improvements on the original. Other noteworthy offsprings of this species are the old Double White and Double Lilac, and of more recent date a most delightful plant has been given us in the Double Pompadour. This plant is rather harder to manage than any of the species; personally I find it does best if subjected to annual splitting up of the crowns. It likes limestone soils or retentive situations, for on sandy soils it fails to live very long. Another beauty, and yet rather difficult member of this section, is the Double Yellow, a plant at one time much more common than now. It is a deep clear yellow, and is often confounded by nurserymen with the Double Sulphur, which is by no means as good a plant. Evelyn Arkwright, a glorified form of the common Primrose, is a truly delightful plant when

well grown. Mr. M. Prichard showed this plant at the Royal Horticultural Society meeting last season, on April 11th, in very fine form, and he states that it is easy to grow when plenty of leafy soil is given to it. I have found that it loves more shade than the type, and its true magnificence is fully shown when planted against a dark background. Others of importance in a horticultural sense are *Croussei*, a double rosy plum; *purpurea plena*, a violet-coloured form. *Carnea plena* is a beautiful Salmon old rose variety which is rare, and when planted in full shade gives a colour otherwise unknown to the Primrose family. Botanically there is one other which should find note here—a variety, "*braeteata*," which is a remarkable plant. The petals are green and leaf-like on the outer margin, while the tube of the flower retains the original Primrose colour and form. I found this plant in a hedgerow near Kildare last season, and I think this is a rare experience. The culture of this species and its varieties is easy; excepting those above mentioned they do not like exposure to the sun in the hot summer months, as the root stock becomes dry and hardened, giving as a result weaker growth later on. A good sign of health is when the old leaves are quite green when the new ones have made their full growth, after which they may be expected to die away, and can be cut off when cleaning up the borders, but it is a fatal mistake to cut off the leaves during the summer months, as a new growth sets in and the all annual duties of the plant are upset and no floral satisfaction is obtained. They like decayed leaves mixed with a fairly retentive soil. When the root stock gets above the soil they should be taken up, divided and replanted. This operation should take place early after flowering, in rainy weather.

*P. farinosa* (Bird's-eye Primrose).—Flowers light purple or rosy lilac, with yellow eye, about half an inch across, in compact umbels, corolla lobes, wedge shaped, notched, calyx oblong-obvoid, leaves one and a half inch long, ovate-oblong, roundly toothed, smooth upper surface, mealy powdered under surface; the whole plant is somewhat mealy, from which it obtains its name.—April and May.

This species is the most widely distributed of all Primulas—it is common in the Alps of Switzerland and the Pyrenees. I have seen vast carpets of this little gem in full flower in

the upland marshes of the Pyrenees quite as plentiful as Daisies in our native pastures. That energetic Alpine traveller and still more energetic penman, Mr. R. Farrer, speaks of this species as follows:—"In every temperate mountain-range of the world, wherever *Primulas* may be found, you are always certain of finding *P. farinosa*." It is common in the Himalays, on the Rocky Mountains, and not uncommon in Northern England, and I once found a plant in flower on the Stone Hills in King's County, yet I always judged that fellow as an escape, but if it was an escape it had made a home for itself there, as several other unflowered plants were keeping it company; it is a plant that could be naturalized in this country with advantage in large rock gardens where grassy slopes form part of the landscape. There is a white variety which is very rare indeed, but it is a jewel of exceeding excellence, and unlike most white forms of coloured flowered plants it is a sturdy plant. In nature *P. farinosa* seeks stiff marshy places, and I think that is the best guide for home culture. I find it likes bog treatment so long as it is not standing in water, yet it does well with me in a much dryer place in a mixture of leaf-mould and loam. It is rather interesting to place one of the leaves of this plant in water; you will notice that the top side is easily wetted, but not so the under side, which is covered with the meal before spoken of. This substance, says Kerner, is wax which protects the leaf by hindering the access of water into the pores or stomata which exist on lower surface. If the leaves become saturated the natural gases of the atmosphere would be cut off from the leaves, and the whole economy of the plant become dormant, and decay soon set in. This is one of nature's safeguards, as *P. farinosa* likes a damp home, yet in these conditions it is sometimes likely to become immersed in water, and has this means of protecting itself in time of need, so I take it that this plant is safer on the wet side rather than that of dry treatment.

*P. scotica* (Scotch).—Flowers rich purple, yellow eye, tube of the corolla equals calyx, and longer than the lobes, few flowers on umbel, leaves obovate-lanceolate, evenly toothed, powdery on both surfaces. This plant is spoken of by some writers as a form of *P. farinosa*. It is not my purpose to debate that question, being quite satisfied that its beauty is enough to justify individual note. True, it

is a lesser edition of *P. farinosa*, but it is almost ever-flowering. It was in flower with me from April to August the past two seasons, some plants giving three umbels of flowers at different seasons. It likes a dryer situation than *P. farinosa* and a more sunny aspect. I fancy it flowers itself to death, for plants that have flowered continually with me have died, but it generally seeds freely, and germinates quite quickly after sowing. This plant is found on the coast of Wales, in Scotland, and the Orkneys in abundance. No words can picture the glories of this wee species, and where choice Alpine *Primulas* are grown, this, above all, should be there.

*P. officinalis* (Cowslip).—Flowers bright yellow, sometimes brownish red, in umbels which droop to the side, calyx lobes obtuse, corolla funnel shape—June; leaves oblong, spoon-shaped, covered with hairs, wrinkled. The main leaf is thrown away from the plant by a stalk which is winged with leaf-like substance. This species is useful for stony banks in the wild garden or woodland, where it generally seeds and becomes at home. In some parts of the British Isles it is rare, and in these districts it may be found to want more care in culture; the same treatment as is given to the "*Vulgaris*" section will suit it. There is a form known as *Macrocalyx* in which the calyx abnormally develops a leafy growth extending beyond the flower proper; this is known as Jack-in-the-Green. In gardens it has quite a charm of its own, and is worthy of cultivation. From this species the sub-species *P. variabilis* is said to arise, and from it all the multicoloured *Polyanthus* have sprung, including a very fine blue variety named Blue Beauty, and a very fine form in Ladham's Brilliant, which obtained an award of merit at the Royal Horticultural Society in 1910, a most glorious rich crimson of good shape and a good robust grower.

*P. elatior* (Oxslip).—Flowers pale yellow, horizontal or drooping, peduncled umbels, corolla limb concave, leaves on winged petioles, about one foot high; it is intermediate between *P. vulgaris* and *P. officinalis*. *P. elatior amena* is a purple form of this from the continent of Europe, which has given rise to a true blue form; it is very rare in cultivation, yet I am told that this is plentiful on the Spanish side of the Pyrenees in the lower meadows. I imported some last season, but so far they have not flowered.



## Deutzias.

By J. W. BESANT, Royal Botanic Gardens, Glasnevin.

**R**EPRESENTED by *D. gracilis* and *D. crenata*, both natives of Japan, this genus has long been well known and esteemed in gardens.

Although *D. gracilis* can be successfully grown as an outdoor shrub in mild districts where spring frosts are not common, yet it cannot be generally recommended for this purpose.

The flower buds often push forth early in April only to be destroyed by frost, which in most places is liable to occur well into May. As a greenhouse shrub, however, it has few equals in elegance and wealth of blossom. Hard forcing is undesirable, resulting in considerable weakening of the plants, which will not blossom to any great extent the following spring. When brought on gradually, moving first from the open to a cool pit, and thence to the warm greenhouse, satisfactory results may be had annually. When out of flower the necessary pruning should be done immediately. Thinning out of old flowering wood to allow of the production of young shoots is all that is required. If the plants can be kept in a moderately warm house for a few weeks after pruning, new growth will be greatly encouraged, gradually hardening off by easy stages until they can be again placed outside in the plunge bed to complete their growth and ripen up the wood during autumn.

*D. crenata* is more generally useful for outdoor gardening, blooming a month or six weeks later, thereby escaping injury by frost. It is also more robust in habit, producing long, strong branches, the whole plant often attaining a height of eight feet and over. The flowers are white, produced in pretty racemes, a well-grown specimen forming a beautiful object in June.

Of *D. crenata* there is a number of forms and varieties, of which the double white is perhaps the best known. This variety is known under several names, such as *D. c. flore albo pleno*, *D. c. candidissima plena*, and *D. Pride of Rochester*, raised in America, but not differing in any marked degree from the other double white forms. Varieties with variegated foliage are also obtainable, but are not particularly desirable.

*D. crenata* has been known under several names at various times, and is still to be found under such names as *D. Fortunei*, *D. scabra* var *crenata*, and *D. sieboldiana*, though the two latter species are now known to be distinct plants.

In addition to these old favourites, which serve as an introduction, there are numerous other species and hybrids well deserving attention from all interested in choice shrubs.

Taking the species first, there is *D. corymbosa*, a Himalayan species which is not hardy enough to succeed outside in many districts.

At Glasnevin outside plants grow freely during summer, but usually get killed back to the ground level in winter. In the milder parts of the country, however, it may prove useful. As in most of the species the flowers are white.

*D. discolor*, a Chinese species, has only been introduced within recent years. It is described as growing about three feet high, bearing lance-shaped toothed leaves and clusters of white flowers flushed with rose. More common in gardens is *D. discolor purpurascens*, a rather more robust variety with oval, finely-toothed leaves and clusters of rose-purple flowers.

*D. parviflora*, another Chinese species, was first introduced to gardens by Messrs. Lemoine, of Nancy. The leaves are oval, pointed, and somewhat deeply toothed, and the flowers white, produced at the ends of the branches. Late frosts are apt to destroy the flower buds, but in parts of Ireland and elsewhere where severe spring frosts are uncommon this should prove an interesting shrub.

*D. scabra*, the name by which *D. crenata* was long known in gardens, is now represented by quite a different plant. The true *D. scabra* is of weaker growth, and bears smaller leaves, which are short-stalked, oval, with fine teeth and deeply-marked veins. The pure white flowers are borne in clusters all along the branches. A native of China and Japan, introduced by M. Lemoine.

*D. setchuenensis* is the name retained for a species raised by M. Maurice de Vilmorin from seeds received from Western China. It is also known as *D. corymbiflora*, a name adopted by M. Lemoine. At Glasnevin this species has made but little progress, the shoots being more or less cut down every winter, consequently no flowers have been produced. The flowers are described as white, borne in large clusters, and opening in June.

*D. staminea*, from India, ranks with *D. corymbosa* and others in being too tender for outdoor cultivation, except in the warmer parts of the three kingdoms. At Glasnevin it has lived for some years in a bed with other species and hybrids, but is killed down to the ground each winter, producing shoots from the base again during the summer. The leaves are lanceolate, whitish underneath, and the flowers pure white.

*D. Vilmorine*, of the newer kinds, seems likely to be one of the most useful. A native of Setchuen, China, it is proving fairly hardy, and flowers later than some of the other species, with a consequent better chance of escaping spring frosts. Introduced by M. Maurice de Vilmorin in 1897, it promises to make a fairly large shrub. The leaves are lance-shaped, with small teeth, the flowers produced in clusters, and pure white.



Photo by]

[C. F. B.

DEUTZIA VILMORINE

Numerous hybrid *Deutzias* have been raised by Messrs. Lemoine, the celebrated nurserymen of Nancy. One great advantage possessed by most of the hybrids is that the plants are much hardier than some of the species, though the early production of the flower buds subjects them to the same disability in relation to spring frosts.

Of the hybrids of *D. gracilis* and *D. discolor* there are several forms, showing the influence of the latter species. These are *D. discolor floribunda*, *D. d. grandiflora*, and *D. d. major floriferous*, little shrubs of much merit.

*D. gracilis* and *D. discolor purpurascens* have yielded a fine set of hybrids, some resembling *gracilis* and others *discolor purpurascens*. When seen growing in a bed the influence of

the parents is clearly traceable. The following are good and need not be described in detail:

*D. gracilis rosea*, *D. g. venusta*, *D. g. campanulata*, *D. g. carminea*, *D. g. eximia*, and *D. g. multiflora*.

*D. kalmiaeflora* is already a favourite, the result of a cross between *D. discolor purpurascens* and *D. parviflora*, flowers rose coloured, somewhat like those of the *Kalmia* in shape, whence the name.

*D. Lemoinei* is one of the older crosses, and has established itself wherever good shrubs are appreciated. It is a product of *D. parviflora*

and *gracilis*. It is a stouter, more erect plant than *D. gracilis*, and bears clusters of white flowers all along the branches. There are now several forms of this hybrid which have received distinctive names, as *Avalanche*, *Snowball*, &c., while *D. Lemoinei*, *Apple Blossom*, and *Rose-ball* are stated to be the product of

*D. Lemoinei* crossed with *D. discolor purpurascens*.

*D. myriantha* was raised from *D. setchuensis* (*D. corymbiflora*) crossed with *D. parviflora*. It is described as having erect stems, clothed with narrow dark-green hairy leaves and clusters of pure white flowers opening in June.

One can hardly close these notes without a tribute of praise to the famous house of Lemoine, the members of which have done so much in hybridising these and other shrubs.



Sing you a song in the garden of life

If only you gather a thistle!

Sing you a song as you travel along,

An' if you can't sing—why, just whistle!

## Muscari Heavenly Blue.

THE photograph shows a pleasing combination of the Heavenly Blue Grape Hyacinth, and *Corydalis bracteata* at the foot of a Japanese Maple. This tuberous-rooted *Corydalis* has white flowers an inch long, with pinky lips, while the leaves and the large bracts are of a soft pale green. Although it cannot be called a showy plant it is a pleasing one, and forms a soft setting to the rich blue heads of the Grape Hyacinth. *Muscari Heavenly Blue* is a variety obtained by Messrs. Barr & Sons from Trebizond, and is the best of the family. The flower bells are of the richest blue, with white teeth at the opening of the bells; they appear on stems nine inches to a foot high, and last a long time as cut flowers, they also have a delightful fragrance. Heavenly Blue has a longer period of flowering than most bulbs—from the end of March to May—this is due to the fact that the stronger bulbs will throw up two or three flowers in succession.

We give this bulb high praise because it deserves it, for blues of this shade are a shortage in our gardens, and we look to the time when Heavenly Blue will be naturalised as freely as some other bulbs. Bulbs cost about 6s. per hundred, but if these are planted in a bed of good soil they increase with wonderful rapidity, and every two years a quantity of flowering bulbs may be lifted without materially lessening the supply in the bed, so it is a very easy matter to get up a stock.

At St. Anne's and Hamwood many of us know

the beautiful effects which are obtained by the use of the Apennine Windflower under the trees and by the side of shaded walks, the stretches of the blue Anemone and the varied light and shade given by the trees and shrubs coming into leaf forming a picture not readily forgotten. In such situations the flowers last longer, for they are grateful for the partial shade provided, and when they die down are not in the way.

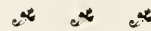
Heavenly Blue *Muscari* is also suitable for such spots as these where the shade of the trees will not be too dense, and to see it massed in quantity on a sloping bank in some Surrey gardens, and to a lesser extent at Glasnevin, is indeed a welcome sight.

When planting in autumn on the flat, scatter the bulbs in irregular masses, avoid formality, and whether nestling at the foot of a tree or giving colour to a woodland walk or hedgerow



MUSCARI HEAVENLY BLUE AND CORYDALIS BRACTEATA  
With *Cordyline pumilio* in foreground

they will look equally at home and happy. Grouped with some of the paler forms of *Narcissi*, Heavenly Blue is quite attractive, or in the garden soil a mixture of the pretty star-flowered *Tritelia uniflora* or *Milla* with Heavenly Blue will find many admirers.



### THE EDITOR'S TABLE.

WE have received a beautiful plant, in full flower, of the hardy *Rhododendron racemosum* about a foot high, and also *Ourisia macrophylla*, from T. Smith's Nurseries. This new *Ourisia* is a native of New Zealand, and has oval leaves, with white flowers borne in tiers on stems a foot high. With our present limited experience of this plant we cannot recommend it as thoroughly hardy; for out of a dozen plants only four came through last winter, and these had the protection of large overhanging stones.



## Some Easily-Grown Saxifrages.

By REGINALD A. MALBY.

ONE of the many advantages of a rock or Alpine garden is the elastic way in which it can be made to fit into the smallest space, or spread over a large area of ground, with equally charming results, while the multitude of plants suitable for culture therein exhibit a similar amount of elasticity in the ease or otherwise with which they may be grown.

There are plants by the score which, with the very simplest treatment, will thrive and look really beautiful throughout a great part of the year, if not indeed all of it, while others require some little experience to know just the conditions they require and the exact method of planting; while again there are still others which need extreme skill and care to bring to perfection.

It is doubtless due to this flexibility—so suiting this form of gardening equally well from the beginner to the expert of many years' standing—that Alpine gardening has come so greatly into favour.

It may be of interest here to enumerate some of the members of that very large family of Alpine plants—the Saxifrages—which make such a splendid "stand by," enabling us to decorate our rock gardens with beautiful and mostly evergreen subjects.

I will not here refer to the really difficult plants, but such as I mention will be so arranged as to lead gradually from the very easiest to the more particular ones, which need reasonable care in their cultivation.

Probably *Saxifraga umbrosa* is the most widely-grown member of this genus, and thrives in almost any soil and aspect. Its miniature relative, *S. umbrosa* v. *minor*, is however much less frequently seen, and to my mind is infinitely more choice, mantling sloping places on the rockery with close clusters of rosettes, from which rise the familiar "London Pride" flowers, though proportionately small.

*Sax. cuneifolia*, too, is a very good plant where a carpet of low growth is required—I find it prefers half-shade, although any ordinary soil suits it. During the

dull season of the year the foliage takes on a very rich green, while the undersides of the rosettes—which are often visible—are of a rich red colour.

*Sax. Geum*, also of the same section as the foregoing, is an equally good "doer," and will easily clothe any desired spot, as will the luscious green-leaved *Sax. rotundifolia*, which in May is surmounted with very graceful spikes of flowers. This latter seeds itself freely, and plants growing in the odd corners—where seed seems to germinate most freely—look extremely well. All the foregoing, with perhaps the exception of *S. cuneifolia*, do not mind the drip from trees—a point of some value, as most Alpines intensely dislike such conditions.

Of a larger scale, but where some bold (and in the winter ruddy, piece of foliage is required, *Sax. Megasea*, in varieties, makes a good subject. It grows with the greatest freedom, provided snails are kept in check—which seem particularly fond of it—and when in early April it throws up its huge trusses of pink, somewhat hyacinth-like flowers, it is a very imposing plant.

Of the mossy section, probably the easiest to grow (if

there is any choice, as they are all good tempered) is *S. caespitosa*, which makes delightful green carpets of moss-like growth, spangled in April and May with myriads of white flowers so as almost to hide the foliage; of an even closer growth is *S. muscoides*, though with me it does not flower so freely.

*S. trifurcata*, with its ruddy stems some six inches to eight inches high, and borne in the utmost profusion, is very welcome, while interspersed among these white flowering forms the following pink and red flowered varieties make a pleasing contrast:—*S. Rhei*, *S. Rhei superba*, Guildford Seedling, *S. Clibrani*. These coloured forms are apt to bleach soon after they open; probably *S. Guildford Seedling* stands the best of any. All the foregoing thrive in half-shady places where they will not get burnt by the summer sun, and any ordinary soil that is not too sticky suits them.

In a compost rather more rich in humus *Sax. Wallacei* makes a lovely bank of bold foliage and large white flowers. This is probably the most beautiful of



Photo. by]

[R. A. Malby

SAXIFRAGA ELIZABETILE

the whole mossy section. All of these are benefited by a topdressing of gritty soil, worked in among the growths once or twice a year, and I find they are best propagated by pulling to pieces and replanting deeply about early September.

Of the encrusted sections, which are perhaps the most decorative of all, with their lime-encrusted rosettes of silver, "packing" into such charming hummocks, so remaining all through the dull days of winter, and then breaking forth in April and May into myriads of trusses, with red-spotted white flowers daintily arranged thereon, *Sax. Aizoon* is probably the easiest. Planted in a sunny position, but where the gritty limy soil will never be really dry, it increases rapidly by throwing offsets from the parent rosette, and this is a ready means of propagating it. The varieties *rosea* and *lutea* are very dainty and thrive equally well.

For some bolder position or shoulder in the rock garden, *Sax. Hostii*, with its rosettes some three inches or four inches in diameter, makes a good plant; while for the most effective display, coupled with ease of cultivation, probably *S. Cotyledon* and its var. *pyramidalis* is hard to equal.

Close under the eye, the more refined *Sax. cochlearis* and its var. *minor* is very pleasing, especially when in flower. I find the small form thrives best if packed into a sloping fissure, where it will entirely fill its niche and spread its silvery cushion on to the adjacent rocks.

Crevices in some almost vertical face of rock, well exposed to the sun, and backed by ample gritty, limy soil, should be reserved for the lovely solitary, star-like rosettes of the "Queen of the Saxifrages," where they will attract the eye every day of the year, and as the plants increase in size season by season it becomes apparent how aptly they are named *S. longifolia*.

Of the last group I shall here touch upon, which make more or less hard, spiny, somewhat hedgehog-like cushions of green or grey foliage, *Sax. apiculata* is the easiest to grow, covering itself in March with pale sulphur-coloured flowers borne three or four on a short stem.

*S. Elizabethæ* is very little more difficult to make quite at home, with its red stems and deeper yellow flowers, while one of the most beautiful of this group is *S. burseriana*, often flowering in January and February. The foliage is quite prickly and of a greyish hue, and rising therefrom on crimson stalks are pure white flowers of a dainty satin-like texture, which, if the weather is not too violent, last a considerable time.

These last three Saxifrages seem to prefer an open sunny position in deep, fairly moist, gritty soil, composed of equal parts of loam, leaf-mould, old mortar rubbish and sand, and when this is well mixed I add an equal bulk of broken brick which has passed through a half-inch sieve. I also place about the plants pieces of sandstone, half buried in the soil, to prevent the too rapid evaporation of moisture.



I pray to you whom God gives gardens, lend

This happy solace which the flowers bestow;

Where pain oppresses, and where few befrend

To cheer their suffering and to soothe their woe.

—*Keats*.

## Hints to Amateurs.

**SWEET PEAS.**—Seedlings resulting from seeds sown in pots last month may now be planted in their permanent quarters. Open the ground to a depth of two and a half to three feet and place manure in the bottom, and cover this with some good fresh clay. If water has been withheld from the pots for a day they will turn out with very little trouble. The roots should be disturbed as little as possible, and in cases where the seed was thinly sown, it will be sufficient only to remove the crocks and drainage from the base of the "ball." Plant in the prepared ground and fill in, making all firm but not "brick hard," leaving the soil slightly below the level of the surrounding surface, which will prevent the water and liquid feedings running off and being wasted. Water thoroughly and give them support.

**STAKING.**—There are various methods for this—patent pea trainers, wire netting, "Simplicitas" netting, &c., prices for all of which can be found through the advertisements of this paper. But the old-fashioned branched pea stakes, where they can be had, good and strong, are hard to beat; they are as good and certainly look as well as any form of wire netting.

**VIOLETS.**—As soon as these go out of flower they may be divided up if new beds are wanted. Lift the plants, shake all soil from the roots and divide them, keeping only the best and strongest pieces. These should be replanted at once in rich ground in semi-shade. Violets will never be satisfactory growing in full sun nor in dry light soil, no matter how much manure may be added, and for this reason you seldom, if ever, see really good violets in a town garden, because there the soil is more often than not lime and brick rubbish which the contractor puts into the garden sooner than cart away. The ideal spot for Violets is newly-tilled land, where you get long-stalked flowers and strong, healthy foliage. Water the plants as soon as planted, and repeat if the weather be dry. Violets may also be grown in a succession as recommended for strawberries—that is, having three plantations, and not keeping any of the plants after the third year, in which case the one and two-year-old plants need only have the runners cut now, the vacancies filled up, and a top-dressing given.

**DAHLIAS.**—These may be planted out towards the end of the month for autumn flowering, in good rich soil. It is a good plan to place a stake in the hole at the same time as planting, thus preventing any injury to the tubers. The varieties are endless and can be had from all nurserymen.

**OUTDOOR CHRYSANTHEMUMS.** These may also be planted in well-prepared ground. Among the best may be mentioned *Goacher's Crimson*, *Bronze Mascie*, *Elstob yellow* and *Horace Martin*, two good yellows; *Roi des Blancs* and *White Mad. Desgrange*. There are also the new single varieties and small pompons, *Snowstorm* and *Eva Grantham*, two good single whites, and *Carrie Laxford*, single crimson.

**BEDDING-OUT PLANTS.** These may be collected, and on a dull day planting may commence with such plants as *Geraniums*, *Lobelias*, *Calceolarias*, *Mysus*, &c., &c. Plant close, as bedding-out can only look really effective when the plants are so close together as to entirely hide the soil. Keep a few of each kind back in case of accidents. Where the same beds as have held the spring bedding have to be filled, bulbs can be lifted and placed in a trench in shade to dry off. If this is done as soon as they are lifted, and the roots not allowed to dry, they will suffer little check.

**LORETTAS.** Lift and divide the herbaceous kinds. These are usually bought from the nurseries in pots which can be planted out immediately.

**BIENNIALS.** such as Sweet Williams, Canterbury Bells, Honesty, Foxgloves, Columbines, and Wallflowers may all be sown in the open ground towards the end of the month for next spring and summer flowering. If Sweet Williams, Antirrhinums and other biennials have been raised in boxes or pans, these may be planted out in their flowering quarters, and where possible plant in clumps and not in straight lines.

**SHRUBS** that flower on the previous year's growth should be gone over, and where necessary pruned, as soon as they go out of flower. By doing this the plants can be kept in shape, without losing any of the flowering wood. Among the many flowering shrubs for spring may be mentioned *Spiraea arguta*, one of the most beautiful, free flowering, and easily grown hardy shrubs. The flowers are pure white, borne in close clusters on graceful branches. The plant is not fastidious as to position or soil, but it well repays liberal treatment. *Forsythia suspensa* and *F. intermedia* are two more spring shrubs no garden is complete without.

**ROSES.**—During cold wind and hot sun roses quickly become infested with greenfly; this especially applies to those on a hot sunny wall. Spray with Quassia Extract, which can be had very reasonably from all seedsmen, with full directions for use. Follow these directions carefully, and do not use the Extract any stronger than advised, as this will injure the foliage. If a sprayer is not available an ordinary garden syringe may be used.

**STRAWBERRIES.**—Fork between the rows and remove all weeds. Give a dressing of well-decayed manure, and over this place some clean straw close round the plants. The manure will be beneficial to the plants and the straw keeps the flowers, and later on the fruit, from mud stains. R. M. POLLOCK.

## Royal Horticultural Society of Ireland.

SPRING SHOW, APRIL 17 AND 18.

**H**OW it is we have been editorially cajoled into giving our impressions of the Spring Show we hardly know, especially as the diplomatic attack was, we thought, successfully parried with a withering No! But gardening Editors are a cool species, not easily withered, and a don't-say-no-if-you'd-rather-not kind of counter-thrust committed us to it—to giving our impressions, concerning which, kind reader, whether you were of the judges or the judged, please understand that naught here is set down in malice.

**PLACE AUX DAMES.**—Eleven fair entrants competing in the decorated dinner-table class made, we think, a record for Dublin. We cannot accuse the ladies of over elaboration; most of the schemes worked out could, in fact, have had the floral and foliage material duplicated without exceeding in this direction, even Mrs. Claude Cane's first prize table arrangement of Barberton Daisies could have done with more light trailing *Smilax* and *Asparagus* sprays to emphasise the effect, which was good. By the way, Carnations are common enough now for use in this class of work, and we were surprised at not finding them used. Soft pink Carnations liberally but lightly

displayed in clear glass vases with graceful foliage make a charming scheme on a dead white cloth. The second prize table, put up by Mrs. G. M. Ross, appeared to us a little just a "leetle" lumpy and daring, decidedly daring; as for the rest, blue flowers for this particular purpose should be tabooed. We should like to see the evident interest displayed in this year's competition sustained by a challenge cup; we believe the class is worth it, and lady members of the society might take the hint and present one. Seven competing for the Daffodil basket made a fair show, and we heard no cavilling at the awards made to Mrs. Claude Cane, Miss Murphy, and Miss Ahern, respectively.

**ROSES.**—Nine Pot Roses always appeared to us a big order for County Dublin gardens, although Lord Ardilaun's challenge cup is a capital fertiliser for growers. This show saw it won out by Mr. H. S. Guinness, Burton Hall, Stillorgan, with a capital nine—a walk over in fact, having no one against him, the winner having first captured this cup in 1907 and again last year, thus completing the conditions. Cut Roses were a treat, Alderman Bewley's 24 fine in form and colour, his *Druschkis* being superb and all as fresh when clearing away as when staged. As for *Maréchal Niel* in the following class the least said, perhaps, the better, beyond that they were of no merit, save apparently in the Judge's eyes, who gave the only stand set up a first. This advisedly; we are comparing them with the grand old *Maréchals* of other days, so splendidly shown in Dublin, and now as defunct as the Dodo, and the sooner it is eliminated from the schedule the better.

**DAFFODILS AND HYACINTHS.**—Figuratively the flower which comes before the swallow dares was "off," it had waxed a fortnight before the show and waned till nought, but the residue remained, of which all credit to those who bravely made the best of it. We compliment Captain O'Callaghan on capturing the President's Perpetual Challenge Cup in the big class of 50 varieties from that doughty champion Mr. C. M. Doyne, who took his defeat in the true sporting manner. This was class 35, and the remainder of the section, extending to class 45, calls for no comment beyond the efforts made by entrants to fill the space allotted to them under adverse circumstances beyond their control. But what—what happened to the Hyacinths? Honestly we do not know, especially with the glamour of the fine beds in the People's Gardens, Phoenix Park, fresh in our eyes. Those shown in the premier class, 12 distinct, were, to say the least, of no merit, and why the prizes were awarded we could not understand. It is but right to add, nevertheless, that the best of the triplets (three in a pot) were not as bad. Pot Daffodils, in view of the season, were excusable; pot Tulips, fair to good, although opening most immodestly flat.

**ALPINES AND HARDY FLOWERS.** But one competitor for the Tully Cup and substantial cash prizes offered for the Alpine table is a drop we did not expect. However, Mrs. George Mitchell, who, with her gardener, Wm. Baker, built up a whole landscape on the 8 x 4 ft. table, fully deserved the premier award for her labours. Entering the garden gate (with our eye), we roamed round the road cut in the cliffs to the Chinese pagoda towering up, and then bled us back to climb the



mountain side (all visually, of course), where we were nearly lost in the *embarras des riches* of the Alpine flora, from which, if we dare say so, the artist seemed to have suffered a little. In the new class for 12 pans of Alpines, distinct, Mr. Besant's staging for Mrs. Greer, the Curragh Grange, was an excellent exposition, the only other contestant being disqualified for exceeding size limit. With three competitors in the class for 24 vases of hardy flowers, Captain Riall's first prize lot included *Dendromecon rigidum* and *Veronica Lavaudiana*, and this class, with the lesser one of 12 vases, filled a nice range of tabling. Here we may, rightly or wrongly, mention Perpetual Carnations, 6 vases, three blooms to a vase, an easy class surely, for which four entrants competed, the bulk of the blooms being rough. In the following class for bunches of Arum Lilies, a brave show was in evidence with seven competing. Here, Miss Murphy, Dартy House, hit the happy medium with clean blooms displayed to advantage, an object lesson to those who cruelly shortened stems, legs so short in fact as to put them out of the running.

**PLANTS.**—The plant tables, 8 x 4 ft., both for quality and effect made a prominent feature, Alderman Bewley taking premier place with a light arrangement in which Orchids played a prominent part. Azaleas were excellent, Mr. Colgan, with the St. Michael's plants leading in every class. Deutzias, as usual in Dublin were well done, and as usual sprinkled the floor with their confetti-like petals. *Cineraria stellata* varieties, as represented by two lots only, appear inclined to go off into a wild, straggling habit, not commendable from our point of view. There is ample room for improvement here as well as more competitors. As for the other *Cinerarias*, in another class, they were there. Fred Simmens' 1st prize half dozen white *Spiræas*, staged for Mr. Westby, Roebuck Castle, were grand, and equally so the only pink lot staged by Mr. Davies from Obelisk Park. The new class for *Schizanthus* was admirably filled, Mr. Green's group, staged for Mr. Robertson, Hermitage, Dundrum, being perfect examples of the somewhat soft but floriferous subject. Show, regal, or fancy *Pelargoniums*, as shown, were neither regal in look nor did they take our fancy; it is too early in the year for this section. Two nice lots of *Amaryllis* came in for competition, awards going to Mr. Westby and Alderman Bewley, respectively. *Mignonne* is always superbly done in Dublin, and this year was no exception, the best 3 pots being staged for Mrs. Meade-Coffey by R. Soden. The new class for *Primula obconica* was well filled and high-coloured varieties in evidence. There appears an opening here for schedule extension in such things as *Malacoides* and *Kewensis*, now the old Chinese *Primulas* have had their day in Dublin. Last, not least, under this head were the noble pot of Arum Lilies, in which the veteran, Wm. Harte, led for Miss O'Meara, with J. Tubbert, for Mr. H. Dudgeon, and J. Nolan, for Mr. T. F. Crozier, close at his heels.

**FRUIT, VEGETABLES, &c.**—Under this head we have little comment. Alderman Bewley's big baking pears, Uvedale's St. Germain's, handsome specimens, were a tribute to the keeping qualities of this consistent bearer, and the same exhibitor's Royal Sovereign strawberries an easy first. Fifteen exhibits of broccoli, mostly of high quality, speak well for the useful vegetable; there

was, however, a drop in the quality of spring cabbage, the one thing, by the way, still wanting (as we write) in our Dublin markets, and that made more prominent the excellent sample of Mackey's (Dublin) Selected Early Offenham, shown by S. Soden, and here, too, is where the value of the Society's new rule of naming these exhibits come in. Lettuce was leafy, and growers might note the value at this season of *Petite Noire* which has been much to the front in London. Under the *et ceteras* we have to notice the Trade Bride's Bouquets competing for Alderman Bewley's prize. To a casual observer, or even to the mere man, there was little to choose between the four in competition, all were dainty confections, in which *Odontoglossum Alexandræ* was the dominant feature. The Lady Judges, however, who awarded the prize to Messrs. Chas. Ramsay & Sons, the Royal Nurseries, Ballsbridge, gave us the points which seemed to sum up in the handling—viz., in the hands of a bride—and, *experientia docet*. Other *et ceteras* were the nice collection of apples, not for competition, from Marlay Gardens, Rathfarnham; Mrs. Butler's collection of St. Brigid Anemones from Priestown, Meath; and Alderman Bewley's fine table of *Amaryllis*, for which a silver medal was awarded.

**TRADE EXHIBITS.**—The following were recommended for gold medals by the judges, which was subsequently confirmed by the Council, viz.:—Messrs. Hogg & Robertson, Holland in Ireland, Rush, Co. Dublin; Messrs. Charles Ramsay & Sons, the Royal Nurseries, Ballsbridge; Messrs. Young & Co., Hatherley, Cheltenham, Glos.; the Lissadell Bulb Farm, Sligo; and Messrs. Ellis, the Rathgar Nurseries and Grafton Street, Dublin. Taking these in order named, Messrs. Hogg & Robertson's stand of Daffodils and Tulips included amongst the latter the dainty little *Lady Tulip Clusiana*, which hardy-flower folk would do well to note for adding to their exhibits. On Messrs. Ramsay's commanding stand, filling the south end of the hall, we noted some charming new *Hydrangeas* in delightfully delicate shades of colour, and lovely bunches of the Bride and Liberty Roses. Messrs. Young & Co., as specialists in Carnations, staged the finest lot we have yet seen in Dublin, including the new Duchess of Devonshire and Lady Audry Neild, whilst old standard kinds, including White Enchantress and the Mikado, were *en masse* as well as perfect form. On the Lissadell stand such noble Daffodils as King Alfred and *Madam de Graaff* were conspicuous. Messrs. Ellis, who had a floor space in the annexe, gave a nice display in a rustic arrangement, with mirrors setting off a collection of useful furnishing plants, amongst which some pretty Heaths, *Erica ventricosa* minor were very attractive.

Silver medallists comprised Messrs. Browett, Kingstown, with a big group of foliage plants and the firm's fine strain of giant Pansies in quantity. Messrs. W. B. Hartland & Sons, Cork, Daffodils, hardy plants, and Orchids, including some nice bits amongst the latter, and a new *Cymbidium* from Burmah. Messrs. Pennick & Co., Delgany Nurseries, Co. Wicklow, made a pretty and extensive group of choice hardy subjects, filling a corner in the annexe. As for the rest, including all the prize winners not named here in the competing classes, all was most creditably and fully reported in our Dublin Press, and needs no further elaboration by—QUIZ.

## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.



**M**AY is perhaps the most interesting month of the year in the flower garden; there are so many beautiful and decided colours at this time which are not to be had at any other season. We have many beautiful shrubs and trees which during the present month add so much to the general display; there are many rock or Alpine plants in bloom; each little patch has a charm of its own—the varied tints of their tiny flowers, their compact habit of growth, some of which creep or hang over rocks. These features distinguish them from other garden plants; they adapt themselves to positions and brighten many a spot where ordinary plants will not thrive; they are full of interest, and well deserve the extra attention and esteem now bestowed on them.

Plants such as Forsythias, Genistas, &c., directly they have finished flowering, should be cut hard back; they will then make and perfect new growth for next year's display, otherwise they become weak and straggling.

Herbaceous borders should be carefully gone over, removing any of the surface plants which encroach on the permanent ones, so that the latter may have freedom to develop for a later display. When Delphiniums have flowered they can be cut over, the surface soil stirred and top-dressed; give them a thorough watering, and they will again start and give a good display in the autumn.

Continue to train creepers so as to fill up spaces. Stake Sweet Peas which are advanced, and for succession make a sowing where they are to flower.

Notes taken last summer and autumn should now be referred to, and any change then decided upon can be made when the summer bedding is being done. Annuals should be thinned out and watered if the weather is dry. Keep the grass mown and have all walks clean and rolled.

It is now time to think of the requirements for winter and spring bedding, and to sow Wallflowers, Erysimum, Pansies, Daisies, Polyanthus, Myosotis, &c. In clearing beds of their present occupants preparatory to summer bedding, such things as Violas, Pansies, Arabis, Aubrietias, &c., should have their tops shortened and be carefully planted in reserve ground, so as to give a good supply of cuttings for propagating plants for coming winter and spring requirements. The above are sometimes neglected at this hurried time, and are much injured by exposure, so it is important that they should receive the necessary attention.

## The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath,  
Killruddery, Bray.

**P**EACHES AND NECTARINES.—Peaches which were started last December should now be taking on their final swellings; give them plenty of water and frequently syringe till such time as the fruit shows signs of ripening, then shut up closely immediately after, then put on air again about six o'clock in the evening in mild weather and leave on all night. The front ventilator may be used freely again now, and it will help considerably in giving the fruit its necessary flavour. Stop laterals and tie in other shoots, and keep the leaves clear from the peaches that all the fruit may have necessary sunshine. But the skin of the nectarines, being rather delicate, will be the better for partial shade to prevent them from shrivelling. Unless the fruit is urgently needed for use at once you may dispense with fire heat to allow them to finish off slowly, for with increasing atmospheric temperature and plenty of clear water you can rely on getting sufficient sunshine at this season for giving peaches a splendid finish. Pay careful attention to later peaches, keeping them properly tied, and of course with hot weather and long days they require more frequent watering and freer ventilation than the others wanted in the early part of the year. Perhaps you will notice frequent repetition of caution about important details, but you must remember that I claim to be a practical exponent of gardening, and I am very anxious that all readers of these notes should meet with success, and one cannot be too particular in peach growing, and no one can afford to have failures.

**STRAWBERRIES IN POTS.**—These will now be ripening fast; push them through with due discretion, and make room for growing melons, cucumbers, and tomatoes, which will be in great demand during the next three months.

**HARDY FRUIT GARDEN.**—If every detail in this department received proper attention in March and April it will not cause much trouble during May. Just see that none of the fruit trees suffer for want of water or mulching. Outside strawberry beds should be carefully looked at. They will now be flowering, and in very early districts further advanced. See that the soil is well covered with half-decayed stable manure or short cut grass free from weeds—any material that will keep the soft fruit from dirty soil caused by heavy rains, &c.

**EARLY VINERIES.**—Fire heat will still be needed in houses where all the berries have been thinned and the stoning process completed. Maintain at nights a temperature of 65 or 70 degrees. You will find the roots very active at this stage, and if you have a satisfactory crop of good bunches they must get plenty of nourishment, liquid or artificial. I prefer both given alternately, for, like ourselves, they require a change of food. Keep them well syringed and free from thrip or red spider until they are colouring, or else you will not succeed in getting them to finish off properly. Be very careful not to touch or rub the berries, and commence giving freer admission of air when the grapes are nearly ripe and occasionally during fine warm nights. You can shut off the fire heat from Black Hamburgs, and



turn extra on the Muscat vinery, for the Muscat of Alexandria always requires 5 degrees or more higher than any other grapes, especially when they are flowering. Do not attempt tying down late Alicantes for a time or they will slip off, and a naked spur will be unsightly. Presuming that they are well underneath the wires, then, of course, a loose tie will support them from falling off. Retain on each vine as much foliage as can be well exposed to light, and no more.

## The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor, Co. Kildare.

**T**HERE is much work to be done in the vegetable garden during the month of May. Many seeds are yet to be sown, such as late Broccoli, Savoy, and Borecole, while for succession Peas, Beans, Turnip, Lettuce, and Radish will require to be sown often in small quantities, selecting cool, deep soil if there is a selection; otherwise dig deep and manure liberally if you would have good crops in the warm weather of July and August. Many of the early-raised vegetables, as Brussels Sprouts, Cauliflower, Onions, and Leeks, should be planted out when fit if the weather is mild, doing the transplanting in showery weather if possible, so that the plants will receive little check. The weather during the past two weeks has been good for getting in crops, being dry but harsh—a splendid time for hoeing and killing weeds, which, if once let go to seed, will give trouble and labour to get the ground clean, and the crops will be much injured—therefore as soon as Onions, Parsnips, Carrots, Turnips, &c., can be seen in the rows run the hoe through them, and even though there are few weeds to kill, the crops will be much benefited.

**BEEF.**—The main crop of beet should be sown early this month in lines or drills eighteen inches apart. Make the soil fine and friable, and manure moderately, else many of the roots will grow too large and coarse. In deep soils long varieties, as Sutton's Blood Red and Pragnell's Exhibition are best, while in hot, shallow soils one of the round or globe beet should be grown, and fifteen inches between the rows is quite enough. This crop, like many other vegetable crops, is often much injured by not thinning early the long varieties to nine inches and globe varieties to six inches apart in the rows.

**PEAS.**—Several sowings of peas will have to be made during this month if a constant succession of peas is required, and the ground should be specially prepared by opening trenches for each line of peas the same as for celery, and filling firmly with well-decayed manure and good soil. Good late peas are Gladstone and Autocrat; the latter pea gives pulling over a much longer time than Gladstone, but is smaller in pod, though the peas are equally well flavoured. Rearguard I grew for the first time last year, and I am giving it another trial.

The main crop of peas will now be growing fast, and should be carefully staked as they get tall enough, putting short stakes, as the tops of withered spruce or beech, when the plants are four to six inches high, afterwards putting taller stakes as the peas require them. In staking always slope the tops of the stakes in an

outward direction, especially if the plants are crowded, to give light and air to prevent the foliage getting scalded; also the peas are less liable to be attacked by mildew.

**TOMATO.**—Any time after the third week of this month is a good time to plant in the open, the seed being sown under glass in March, grown on cool, and carefully hardened off should, by the time of planting, have one or two trusses of fruit set and plenty of flowers open if the plants have been kept to single cordons, as these give the earliest and finest fruit. In planting in plots in the open select plots sheltered from north and east, and give the plants three feet in the rows and two feet from plant to plant.

**SCARLET RUNNER BEAN.**—This vegetable is highly prized by rich and poor, and few crops give a greater return, from a small line, over a long season if the ground has been well prepared and the plants given plenty of room. For each line open trenches two feet wide and deep, break up the bottom another spit deep and place over it a good depth of long manure or garden refuse, say eight or ten inches deep, then fill up with decayed manure and good soil, and make firm; sow the beans in a single line five inches apart, and if all the seeds grow, thin to one foot apart, and stake with poles eight to twelve feet high. If early beans are required, and room can be spared, sow in April or at once under glass on a mild hotbed a few seeds in a box filled with light, rich soil, giving three or four inches between the beans in the box. These, if planted out at the end of this month, will give an earlier crop than those sown in the open, as, like French Beans, Scarlet Runners are tender, and the main crop should not be sown in the open before the end of April or beginning of May. Best of All is a good variety for home use and exhibition, but the finest variety I have seen was (last season in a garden near Dumlavin) called Scarlet Emperor, sent out by Dicksons, of Newtownards, whose dwarf bean, "The Belfast," is much better than Canadian Wonder. The seed is piebald, coloured black and white.

**VEGETABLE MARROW.**—Get this vegetable planted out early in the month in a sunny, sheltered place (marrows will not fruit well if grown in shade), and cover at night to protect from frost, so as to give a long season of growth and gathering of marrows. Many plant on spent hotbeds or on rubbish heaps with success, but I prefer well-manured ground, as the growth is shorter and much more fruitful. Moore's Cream and Custard Marrows are handsomer than the long white or green, while for small gardens the Bush Marrow gives good results and takes up little room.

**CELERY.**—Plants for the main crop will now require singling out, and if a couple of inches of light, rich soil is placed over the manure on a spent hotbed, and the celery dibbled out two or three inches apart every way and the frame kept close for a few days, the plants will start at once into growth, and be strong for planting out next month. Early celery should be planted out this month, early or late as weather permits, in trenches four feet apart and one and a half-foot wide and deep. Break up the bottom of trench, and put ten or twelve inches of good manure over it; then four inches of soil, and plant one foot apart. Give water if the weather is dry.



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# Irish Gardening

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# IRISH GARDENING

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ADVANCEMENT OF HORTICULTURE AND  
ARBORICULTURE IN IRELAND

JUNE  
1912

## Eremuri.

By J. W. BESANT, Royal Botanic Gardens, Glasnevin.



THE flowering season of the various species, varieties and hybrids of *Eremurus* extends from early in May to the middle or end of June, varying considerably according to the season and locality. This year they are flowering earlier than usual, and the spikes are shorter, owing probably to the prolonged drought of last summer.

All the species enjoy a deep, rich sandy loam and a sunny position, while shelter from rough winds is desirable, though not essential, the long flexible spikes bending to the breeze without injury; but the individual flowers do not last so long as when protected from wind. The cultivation of these stately members of the Lily family is not difficult if the conditions above are provided. As the crowns push up early in spring it may be necessary to protect them against frost for a short time. This is easily done by inverting a large flower-pot over the crown at night, removing again in the morning, or a few short branches lightly placed round will have the same effect. As the roots get stronger and split into several crowns they are apt to raise themselves out of the soil. They should then be carefully lifted in summer when the leaves have died down and be divided, taking great care to injure as little as possible the long, fleshy, brittle roots. Holes large enough to replant in comfortably should be

prepared two feet deep. These must be filled to within six inches of the top, with a compost of sandy soil and thoroughly rotted stable manure, taking care that the manure does not come in contact with the roots immediately on planting. To obviate this a layer of sharp sand should be placed in the hole on which the roots may be laid, covering in with sandy soil carefully worked in among the roots by hand. For safety in winter it is desirable to cover with a few inches of dry ashes, which precludes any chance of injury from prolonged hard frost.

There are some thirty species of *Eremurus* known to botanists, but probably not more than ten or a dozen are in general cultivation.

*Eremurus Bungei*, native of Persia, is figured in the "Botanical Magazine" under the name of *E. aurantiacum* (tab. 7113). There has, however, been some confusion with regard to the true *E. Bungei*, which is said, in the work quoted above, to differ from *E. aurantiacum* in the less acutely keeled leaves, in the root fibres tapering upwards, and in the orange-yellow flowers with red-yellow anthers. The plant in cultivation as *E. Bungei* appears to be *E. Bungei var. stenophyllus*, which is synonymous with *E. aurantiacum*. The flowers of this plant, which has frequently flowered at Glasnevin, are pale-yellow or lemon-coloured, the spike thin and about three feet high. *E. Bungei præcox*, which is also cultivated, is a much superior plant, making a more robust spike with deeper yellow flowers and conspicuous anthers, and may possibly be the true *E. Bungei* referred to. In any case it is a desirable species.

*E. himalaicus* (Bot. Mag. 7076) is a Hima-

layan species. It is fairly common in gardens, and generally admired. It is one of the earliest to open its flowers, which are pure white, densely produced on spikes which vary from five to eight feet in height, the upper two feet or so being covered with flowers. As in all the species, the strap-shaped leaves are entirely basal, reaching a foot or fifteen inches in length. *E. x Him-rob.* is a very handsome hybrid between *E. himalaicus* and *E. robustus*. It is a strong grower, producing spikes some eight feet high and bearing hundreds of charming bluish-pink flowers.

*E. Kaufmanni* is a Turkestan species of medium growth, bearing narrow leaves and spikes of rather dull brownish-yellow flowers. It is not a showy plant for garden purposes.

*E. Olga*, also from Turkestan, is an attractive species, producing long spikes of pink-tinted flowers from a rosette of narrow, rather glaucous leaves.

*E. robustus* (Bot. Mag. 6726), from Turkestan, is generally looked upon as one of the finest in the whole genus. It was first discovered by Semenow in the Alatau mountains, and subsequently by other travellers at various altitudes

in Turkestan. It flowered first at Moscow in 1871, and two years after with the late Max Leichtlin at Karlsruhe. It also flowered early with the late Mr. Gumbleton in his celebrated

garden at Belgrove, Co. Cork. The soft pink flowers are produced in massive spikes, attaining in good seasons a height of ten feet. *E. robustus elwesianus*, said to be a seedling from the type, is even more robust, bearing deeper-coloured flowers in huge spikes. It is probably the finest *Eremurus* in cultivation.

*E. rob. elwesianus albus* does credit to a somewhat unwieldy name. It is a surpassingly beautiful variety, with pure white flowers in superb spikes. Why it should be designated a white form of *elwesianus* is not altogether clear, as it might equally well be a white variety of *E. robustus*.

*E. spectabilis* (Bot. Mag. 4870)

is a native of Asia Minor, &c. It is a fairly dwarf species, the spikes reaching a height of three or four feet, bearing sulphur-yellow flowers. The leaves are of medium width, about twelve inches to fifteen inches long.

*E. x Shelford* is a handsome hybrid between *E. Bungei* and *E. Olga*. The spikes, which reach a height of six feet or seven feet, are



*Photo 151*

*EREMURUS ELWESIANUS ALBUS.*

[C. F. B.]



clothed on the upper portion with beautiful coppery, yellow-red tinted flowers.

*E. turkestanicus*, from Turkestan, is another of the smaller growing kinds, bearing spikes of rather dull yellow flowers from among narrow glaucous leaves some twelve inches to fifteen inches long.

*E. Warei*, probably of hybrid origin, exists in various colours, such as buff, yellow, lemon and pink, the leaves being narrow and keeled, varying in colour from green to glaucous on different plants. The finest collection of *E. Warei* forms known to the writer is in the possession of Mr. Beamish, of Glounthane, Co. Cork, who, with unfailing generosity, presented a set to the Royal Gardens, Glasnevin.

## Experiments on the Pollination of our Hardy Fruits.

By CECIL H. HOOPER, M.R.A.C.

**T**HROUGH the kindness of Mr. W. E. S. Erle-Drax I was able to make some 300 trials in his beautiful fruit gardens at Olantigh Towers, Wye, Kent.

The three questions I wished to try to get information on were:—(1) Can fruits set and mature without the visit of hive, bumble, and other wild bees? (2) Can fruit set and mature when pollinated with the pollen of the same variety or flower? (3) Does fruit set and mature better where the blossoms are pollinated with pollen of another variety?

**GOOSEBERRIES AND CURRANTS.** In the gooseberry and red, white and black currants the pollen is globular and viscid, and the pollen is unable to be transferred from the anther to the stigma except by some mechanical means, such as the visit of an insect to transport the pollen from the anther to the stigma. Two bags on each bush were placed over unopened blossoms on several bushes of gooseberry, red and white currants. The first bag was left untouched during the flowering period, the second was opened, and each flower that was opened was dusted with a camel's hair brush, with the result that on the untouched boughs of gooseberry and currants very few fruits set, and those apparently only where rubbed by the bag; whilst in the second bag, where hand pollinated with their own pollen, in the case of the gooseberry the fruit set almost as plentifully

as in the open. It would probably have set just as well if the flowers that were open had been pollinated several times instead of only twice, as the gooseberry opens its flowers gradually from base to tip. In the red and white currants bagged, but hand pollinated, the fruit set as well or rather better than in the open. This year and last year Messrs. Little & Avery, in the County Council Experiment Gardens in Cumberland, put muslin hoods over bushes of gooseberry, red and black currant, and found the imprisoned bushes set very little fruit, and that diminutive in size. Hive and bumble bees do very nearly all the pollination of the gooseberry, red and black currant; the lesson to be drawn from the results of the various trials is the great importance of having hive or bumble bees in the neighbourhood of plantations of gooseberries and currants. Gooseberries, red and black currants are each about four weeks in bloom. These berry fruits set perfectly with pollen of the same flower or same variety.

**STRAWBERRIES.**—In the case of strawberries, the box part of a glass hand-light was placed around a "Royal Sovereign" plant and muslin was tied over the top; this was done before any of the flowers had opened. Muslin bags were also placed over bunches of blossom buds of several other varieties, but in each case the fruit set as well or nearly as well as in the open; apparently no insects had entered. The weather was unusually sunny. Apparently the movement of the air carries the pollen to some extent from the anthers to the stigma in the same flower in the case of the strawberries in the open air. Strawberries commence to flower about a month before the fruit is ripe.

**RASPBERRIES AND LOGANBERRIES.**—Several bunches of unopened buds of "Superlative" raspberry and loganberry were enclosed in muslin bags. Fruits set but were not, as a rule, quite so large or well developed in those bagged as in those in the open. Hive bees are very fond of raspberry and loganberry flowers, apparently preferring them to those of the strawberry; the honey made from raspberries is very fine. Raspberries and loganberries set perfectly with pollen of the same variety, but apparently to get the best results the blossoms require plenty of bees. One raspberry grower considers he gets better crops by having different varieties in his plantation, as the fruit sets better where varieties are mixed; but before recommending

such a practice we need to test the fact. Raspberries remain in flower about six weeks, and take about six weeks between commencing to flower and fruit being ripe.

We now come to a group of fruits which in general do not set well with their own pollen, and in many varieties will not set at all. These include the cherry, the apple, the pear, and the plum.

**CHERRIES.**—Out of some nine varieties of cherry experimented with, placing three muslin or paper bags on each tree, none set fruit in any of the bags in which the flowers were left untouched; in the case of those flowers pollinated by a camel's hair brush with pollen of the same variety, only Morello set fruit, whereas in those pollinated with pollens of other varieties, they all set fruit. These facts seem to show two important features in cherry cultivation—first, that there should be plenty of bees in the neighbourhood; second, that it is advantageous to intermix varieties of cherries, as it seems as if Morello is one of the only cherries that will set fruit with its own pollen; however, more experiments are needed on this point with cherries, also certain varieties of cherry may be found to be better pollenizers than others, and therefore better suited for intermixing. The different varieties of cherries flower nearly at the same time, Morello being late in flowering. They seem to be in flower some twenty-two days, and in full flower on the seventh or eighth day.

**PLUMS.**—In the case of plums, trials were made on eleven varieties; of those flower buds bagged and left untouched, fruit only set and matured on two varieties—viz., Victoria and Czar; but in the Czar only one fruit. Of those blossom buds bagged and pollinated with their own pollen five varieties set and matured fruit—viz., Victoria, Czar, Denniston's Superb, Bittern and Rivers' Early Prolific; these appear to be more or less self-fertile. Of other varieties that were tried, but did not in these trials set fruit, were Cox's Emperor, July Greengage, Pond's Seedling, Jefferson and Early Orleans. All varieties except Victoria seem to set fruit more plentifully and finer when pollinated with another variety; in the cases where they were cross-pollinated with another variety, nearly all set fruit. Good fruit was produced on Victoria x Czar pollen, Victoria x Denniston's Superb

pollen, Rivers' Early Prolific x Denniston's Superb pollen, Pond's Seedling x Czar pollen, the fruit produced by the cross being generally larger than where pollinated with pollen of the same variety. These pollinations were made without emasculation. According to Mr. W. Backhouse's very careful experiments on plums at the John Innes' Horticultural Research Station, which he gives me permission to quote, he finds Early Orleans, Late Orange, Sultan, Late Orleans, Kirke's Blue, a "Sloe," Coe's Golden Drop, Early Greengage, Blue Imperatrice, Late Transparent and Washington absolutely self-sterile. Greengage and Reine Claude d'Altham apparently self-sterile. Histon Greengage very nearly self-sterile. Rivers' Early Prolific, though not absolutely self-sterile, is better cross-pollinated, whilst Victoria, Pershore, Denniston's Superb, Early Transparent, Reine Claude Violette or Purple Gage, all set fruit with their own pollen, nearly every flower truss had to be thinned. In Mr. Backhouse's experiments he used very transparent paper bags chiefly thirteen inches by seven inches, purchased from Miller, Glasgow, costing nearly ten shillings per hundred.

*Early Flowering.*—Grand Duke, Monarch, Old Greengage, Black Diamond, Cox's Emperor.

*Mid Flowering.*—Cheshire Damson, Bradley's King of Damsons, Victoria, Cox's Golden Drop, Jefferson.

*Late Flowering.*—Prince Engelbert, Rivers' Early Prolific, Sutton, Czar, Cullen's Golden Gage, Pond's Seedling. Plums are in flower about 19 days, and in full flower on the eighth day.

(To be continued).



#### NANDINA DOMESTICA.

THIS is an elegant shrub, something like a bamboo in appearance; the leaves are evergreen and finely divided. It is doing very well in some Irish gardens, and although not considered generally hardy, it has stood out outside in the south, and also in Co. Dublin. It flowers but does not bear berries as a rule in Britain.

In China it bears quantities of red berries, and takes the place of our English Holly, and is called by the Chinese "Tein-Chok," or Sacred Bamboo. Large quantities are brought in from the country and hawked about the streets. It is used for the decoration of altars, temples, and private dwellings.

To establish it in the garden, buy plants in pots, and plant them in sheltered places in spring.

## Ranunculus Lyallii.

THIS magnificent plant is known to colonists as the "Mount Cook Lily" or "Shepherd's Lily," and is the finest member of the Buttercup family, and a native of the New Zealand Alps. In some parts of the Southern Alps it is said to be so abundant that in summer the mountain slopes are whitened by the multitude of flowers. It grows naturally in marshy places at an elevation of two to four thousand feet, and

peltate and circular; in fact, shaped like those of the Common Pennywort, but nearly a foot across, borne on long stalks. In mature specimens they become concave and form saucers in which water collects, and there are deep grooves over the leaf veins, and some people think that the leaves are able to absorb water at these places. The plant grows from two to four feet high, and the beautiful flowers are pure white, rather like those of the Anemone, and measure two to three inches across. There are only two other species of the



RANUNCULUS LYALLII.

on mountain slopes below the snowfields, where the ground is kept moist by the melting of the snow from the higher regions; it grows in peat, shingle and even sand.

Mr. H. Travers, F.L.S., of Wellington, N.Z., writing recently to Ireland, says—"I saw a specimen of *Ranunculus Lyallii* growing through a *Veronica* on the bank of a stream. I am sure the leaf stalks were at least five feet long, and the radical leaves ten to twelve inches across. All the *Ranunculus* appear to like protection. In the mountains the greatest numbers of plants are found on the shady side, and this is the moistest and coldest."

The leaves are most remarkable, for in shape they are

genus which have peltate leaves, and these are *R. Cooperi* and *Baurii*, natives of South Africa. Cheeseman now regards *R. Traversii* as a smaller form of *R. Lyallii*.

Unfortunately up to the present *R. Lyallii* has proved to be very difficult to grow and flower in this country, but it is not an impossible plant, as the letter and photograph from Mr. G. Smith, of Newry, will clearly show. Probably Mr. Smith is the first, or at least one of the first, to raise this plant from home-saved seeds. During the last twenty years many pounds of seeds have been imported, but their germinating power seems to be destroyed, or partly so, by the voyage, although they should not be thrown out too hastily, for seeds



have been known to germinate after two, and even four, years from sowing.

Mr. G. Smith writes : " Our plant of *R. Lyallii* was received here in November, 1909, and learning from my father that he had seen cases where plants had been in pots for many years and only produced leaves I was determined to try another plan, so I planted it out in the bog garden in deep, rich soil, not too wet, but moist. It made a few nice leaves in 1910 and had no protection during the winter, except a few laurel branches stuck round the leaves, which remained almost evergreen, but it was with no small amount of pleasure that I found it throwing up a vigorous shoot in the end of May last year, which gradually developed by June into the beautiful flower heads depicted in the accompanying picture; they lasted in beauty for quite three weeks. The central or first flower to open was somewhat larger than the others which opened gradually around it; they were of a pure glistening white with a striking bunch of golden stamens in the centre. There was some seed formed, but as this showed an inclination to drop before it was properly mature I am afraid it was infertile. It was sown, however, but so far has not made any appearance."

Last April Mr. Smith writes again :—" The seed saved here last year of *Ranunculus Lyallii* has germinated, and I have now fifty or so nice healthy plants growing well. Isn't that good?"

## The Bog Garden.

By REGINALD A. MALBY.

A STRIKING feature in half shady places where moist, leafy soil is available is made by the *Dodecatheons*. *D. Hendersoni* is a particularly rich and pleasing form. From the smooth, somewhat *Primula*-like leaves rise many rigid stalks, each bearing a shower of *Cyclamen*-like flowers, there being frequently as many as twelve to fifteen blossoms on a single truss. The petals are of a rich, rosy purple; the mouth of the corolla is yellow, decorated with a circular lacing of red, while protruding from the flowers some half or three quarters of an inch are the dark-coloured stamens and the still longer stigma. The popular name of "American Cowslip" or "Shooting Star" is, I think, by no means inappropriate.

The natural habitat of the plant is the moist woods of North America, though they seem to make themselves as much at home in the rock garden in half shade in soil composed of peat, leaf-mould, loam and sand, and kept moist during the hot weather. I find it advisable to split up the clumps and replant when they have been in the ground three or four years, as they seem to have exhausted the soil about the roots by then. Considerable care should be taken in doing this, as the roots seem somewhat brittle and so liable to snap off. Naturally, the season following such treatment the plants cannot be relied upon to make a very brave display. The succeeding season, however, they show their appreciation of their new conditions by flowering profusely. The best time for dividing and replanting I find to be January and February, when the roots are beginning to be active again.

In the bog beds, preferably near the pool, *Trollius asiaticus* is a glorious mass of deep, rich yellow, and gleaming within the partially opened globular cups the orange coloured stamens are visible. The foliage, too, is very decorative. In this plant, with its deeply divided leaves, is backed by the large rounded leaves of *Senecio clivorum* it makes a striking contrast, while near the base of the *Trollius* the silver and green grass-like foliage of *Arrhenatherum bulbosum* looks extremely well. All three of these plants delight in ample moisture, and with me seem to find peat, leaf-mould, and loam in roughly equal proportions very acceptable, although they are not particular, provided the soil is moist. It appears to me well to plant *Trollius europæus*, with its pale yellow flowers, some distance away from its deeper coloured relative, otherwise the European form looks poor.

So far as I have seen them the newer introductions or varieties like *T. "Fire King"* and *T. Fortunei* though in some cases very rich in colour, lack that great beauty of form, coupled with richness of tint, which is so charmingly combined in *T. asiaticus*. To me this double buttercup is one of the most glorious bits of colour which May and June bring us in the bog garden, while much later in the season the yellowish, orange flowers of the *Senecio* give us very much the same effect.

Mantling the surface of the pool, too, are the white cymose inflorescences of the *Aponogeton distachyon*—the Water Hawthorn—very charmingly displayed among the long green, floating leaves. It is surprising how very freely the seed of this aquatic germinates, producing new plants by the dozen; while near by the striking three-lobed leaves of *Menyanthes trifoliata* emerge from the water, and among them the dainty spikes of its fluffy flowers are seen, reminding us somewhat of a very refined horse-chestnut bloom.

Nothing more than a good loamy bottom to our pool and full exposure to sunlight seems necessary to make these two delightful water plants flourish.

## Correspondence.

MR. R. T. MRAGHER, Buona Vista, Killiney, sends a nice flowered spray of *Acacia armata*. This native of Australia is usually grown as a greenhouse shrub, but in the warmer parts of Ireland may be grown outside. Our correspondent writes that it has formed quite a large bush in the open in his garden, and has been covered by masses of beautiful flowers. The shrub measures over six feet high and the circumference of the stem is ten inches around the thickest part.

M. H. FOLLIOTT, Boyle.—Your Tulips are attacked by the Tulip Mould, called *Sclerotinia* or *Botrytis parasitica*. When the foliage has ripened take up the bulbs and rub them well with a mixture of lime and sulphur, and the following autumn plant the bulbs in a fresh piece of ground. The old Tulip leaves and stems should be burned, otherwise spores form and will endanger subsequent bulbs which are planted. When badly attacked by this mould it is better to burn the bulbs and foliage altogether.

## The Royal International Exhibition.

A SCENE of indescribable floral beauty awaited the King and Queen at the Chelsea Hospital Gardens on Wednesday, 22nd May. Their Majesties were received by the Duke of Portland, President of the Exhibition, and, after shaking hands with some ambassadors and statesmen, inspected the various exhibits.

Such a display of Orchids has seldom been witnessed before in the annals of horticulture; one end of the tent was filled by the exhibit of Lieutenant Colonel Sir G. Holford, K.C.V.O.; this glorious mass of Orchids, including many fine novelties, winning the King's Cup for the most meritorious exhibit in the show.

Under the six-acre run of canvas, covering massive groups of ornamental and flowering plants, one is dazzled by the masses of Azaleas and Rhododendrons. Perfect rose gardens abound with Climbing Roses on pergolas and masses of cut flowers.

Towards the centre of the large tent are huge banks of gay colours marking the places where Messrs. Sutton, Webb and Carter have made their stands; and one marvels at the improvements in florists' flowers. The ferns, with their restful and filmy-like fronds, will give one's eyes a rest; and then they are again attracted by peaches, oranges, cherries, hanging in a tempting fashion on the trees, with pergolas of vines near by. New strawberries from Laxton's, peaches from Rivers', apples and pears in quantity from Bunyard, Seabrook, &c.; while we note with pleasure that His Majesty the King has won two prizes for fruit.

Our illustration shows a section of a group of stove plants staged by Messrs. J. Veitch and Sons, to which the President's Cup was awarded. We always expect something good from Veitch, but this was exceptional, even for this firm. This huge group forms an ellipse with a frontage of 215 feet. Palms and tree ferns form the centre; *Dracenas*, *Caladiums*, *Davallias*, *Marantas* give colour along with *Anthuriums* and *Medinilla magnifica*; while *Nepenthes* are raised aloft, allowing their pitchers to be readily seen. Our photo (page 80) shows *Caladium Rose Laing*, *Anthurium crystallinum*, the showy *Croton* and the gorgeous *Clianthus Dampieri*.

### IRISH NOTES.

THE Irish Cup (illustrated in our April number) for 600 square feet of rockwork with suitable plants was awarded to Mr. J. Wood of Boston Spa, Yorkshire. It is a well-built little piece of rockwork, with a winding streamlet in front, but it is the rock which commands attention, being built of well-weathered, stratified pieces of limestone selected and placed with great care. It was planted judiciously, including plants as *Iris cristata*, *Cathartica*, *Aquilegia glandulosa*, and *Cypripediums*, &c.; but some of the plants were past their best, and did not compare favourably with other exhibits.

The Irish Salver given for 400 square feet of hardy-flowering and foliage plants, arranged for effect, was

won by Messrs. Fisher, Son & Sibray of Sheffield. Messrs. Nottcutt of Woodbridge had a more showy exhibit of flowering shrubs, but lacked the taste and arrangement of the former firm, who included in their group Japanese Maples, the variegated *Timorphanthus*, *Ivies*, *Rhododendrons*, *Raphiolepis japonica*, and among the Azaleas was a pretty dwarf variety with rounded white flowers, and called Miss Ruist.

The Irish Tulips were well ahead of those from the English growers, many of whom withdrew owing to the early season. Hogg & Robertson put up a non-competitive group, some of the varieties being exceptionally fine, such as *Rosetta*, *Louis XIV.*, *Mrs. Cleveland*, &c. In the centre were a few flowers of the beautiful and striking Irish *Lorteti*, unfortunately a difficult plant to grow.

Messrs. Alex. Dickson were successful in bringing back the following prizes:—3rd prize, for 36 Roses not less than 24 distinct varieties; 2nd prize, for 18 Roses not less than 12 distinct varieties; 2nd prize, for 12 varieties, 9 flowers of each; 2nd prize, for 6 Roses of any variety sent out since January 1, 1909, their variety being *Alex. Hill Grey*; and a 3rd, in the class for new pot Roses with *George Dickson*.

Their large stand of Tulips was very good for such a trying season. Some outstanding varieties were *Pride of Inglescombe*, *Eric*, *Inglescombe Yellow*, *Fawn* and *Louise de Valerie*.

The Hugh Dickson firm also staged Roses in their usual good form.

Messrs. Reamsbottom had a showy lot of their strain of the *St. Brigid Anemone*, while the Lissadell firm brought Hardy Primulas. When *Primula Veitch's Unique* and the Lissadell Hybrid are compared, the latter is easily seen to be the better plant.

### THE ROCK GARDENS.

By W. H. PAINE.

J. CHEAL & SON, Crawley, put up a Rock and Water Garden in which Sussex sandstone was used. A water pool formed the foreground to a cliff of stone which was arranged in a rough outcrop, studded with various plants, including *Sax. Cotyledon*, *Lith. prostratum*, *Dianthus arvernense*, *Ramondia*, *Saxifraga*, &c.

Wares, Ltd., Feltham, arranged a Rock Garden entwined with paths, which was very much to the advantage of the public. A very notable plant was seen in *Dianthus cæsius*, Ware's var. It has a dark calyx and a pleasing soft pink flower of good size. Another old yet rare plant in *Silene Hookeri* was seen in fine form. It has a pink Gerbera-like flower of two inches across. *Aster alpinus superbus* and *A. alpinus rubra* were shown with excellence, and *Wahlenbergia saxicola* was worth our cultural notice. *Dianthus Atkinsoni* was the most beautiful plant as shown by this firm. Hardy *Cypripediums* were arranged in a bog enclosed by a wall studded with *Ramondia pyrenaica*. *Aubrietia*, *Mrs. Lloyd Edwards* formed a good contrast to *A. Bridesmaid*, but it is questionable if the new *Aubrietia* can rival the old and good *Dr. Mules*. *Senecio Dorenicum* was also very good. Waterfalls and pools banked by *Iris*, *Spiraea*, *Gunnera*, and natural water plants.



Bakers of Wolverhampton came with one of the most natural pieces of rockwork ever seen, huge cliffs of stratified stone which was toned to give the effect of age and of weather. *Morisia hypogrea*, *Lith. Heavenly Blue*, *Aquilegia glandulosa*, *Onosma echioides*, *Dianthus caesius*, Baker's var *Incarvillea grandiflora*, *Azalea rosaeiflora*, *Viola gracilis*, *Houstonia serpyllifolia*, and hardy *Cypripediums*, the above plants were shown in mass, and the *Primula Cockburniana* was the most beautiful in colour seen by us in the show. The water was surrounded by *Primula japonica*, *P. pulverulenta*, *Funkias*, *Spiraeas*, *Astilbe Arendsii*, *Venus*, *Primula*

hardy plant and rock exhibits ever seen in England. The plants were all really good. *Viola Purple Robe* was a fine new seedling of *Gracilis*. *Viola pedata*, *Sedum pilosum*, *Viola bosniaca*, *Orchis foliosa*, *Meconopsis cambrica*, fl. pl., *Veronica rupestris*, *Saxifraga*, *Primula*, including *Bulleyana*. Hardy ferns were arranged in proper order. The public interest in this exhibit was the keenest seen anywhere. Beyond the rock garden was a formal garden of flagstone paths, lily tank and herbaceous borders. Iris, Poppies, Pyrethrum, and an excellent selection of good plants was seen.



Photo by]

[R. A. Mally

ONE OF THE PRETTIEST ROCKERIES AT THE INTERNATIONAL SHOW.

Built by M. Pritchard. (Special Award).

Lissadell Hybrid, and many other good plants were arranged in a most classic manner.

Kent & Brydon, Darlington, staged a rock garden with old stone; the general conception was artistic. *Mimulus radicans*, *Primula japonica carmineus*, *P. cockburniana*, and *P. sikkimensis* were shown in good form.

Messrs. Jackman & Son, Woking, showed three plants of *Acantholimon venustum*. They were the best of this rare Alpine ever seen by us. A nice little rock shrub, *Bruckenthalia spiculifolia* was in good form, it is in the way of a small *Erica*.

R. Wallace & Co., Colchester, gave one of the modern triumphs of exhibiting—a natural vale enshrouded by trees on either side, suitably arranged rock and water, stepping stones, waterfalls, all formed part of the finest

*Habranthus pratensis* was shown in wonderful form. It is a *Anaryllis*-like flower of most dazzling scarlet and a flower of refined excellence.

Whitelegg & Page, Chiselmurst, exhibited a rock garden with a natural waterfall. The garden was flanked by a path and water pool. Studded with dwarf shrubs and rock plants in rare variety. *Gemm Mrs. Bradshaw* was well staged; the exhibit was generally admired.

Mr. J. Wood, Boston Spa, winner of the Irish Cup, made what may be best described as an Alpine garden. The stone was brought from the Yorkshire mountains, where the weather had worked the stone into very fine shape, giving it a very fine appearance. The plants of the exhibit included many rare things, but seem to have suffered in transit. *Cyp. aculea*,



*Primula cockburniana*, *Anemone palmata alba*, *Trollius patulus* (which is a small edition of *T. europæus*, and perhaps a little less deep in colour), *Wahlenbergia serpyllifolia major* were also good. Hardy ferns, water plants surrounded the pool of water.

Barr & Son, Taplow, showed masses of all important Alpine plants, including *Erinus alpinus*, *Thymus serpyllum albus*, *Primula Veitchii*, *Chrysogonum virginianum*, *Horminum pyrenaicum superbum*, *Oxalis enneaphylla* (a foot across), *Viola gracilis*, *Onosma Bourgaei*, *O. stellatum*, *O. Thompsoni*. The rock garden was

M. Pritchard, the hardy plantsman from Christchurch, Hants, put up a very fine natural rock garden, on which we saw the rarest lot of Alpines of any stand in the show, including *Dianthus E. J. Andertonii*, *Scutellaria indica japonica*, *Linaria origanifolia*, *Origanum Dictamnus*, *Azalea rosiflora*, *Arenaria grandiflora*, *Lychnis pyrenaica alba*, *Oenothera ovata*, *Viola pedata*, *Hippocrepis comosa*, *Mathiola valesiaca*, *Saponaria oeymoides alba*, *Astericus maritimus*, *Edraianthus pumilio*, a white *Lithospermum*, *Silene Hookeri*, *Thalictrum pubescens*, and a very fine mass of *Dianthus Napoleon III*. The whole idea of the garden showed



Photo by]

[R. A. M.]

#### VEITCH'S GROUP OF STOVE PLANTS

Which was awarded the Duke of Portland's Cup.

arranged with fine old stone, and the floral part of the exhibit was one of the best.

Piper, of Bayswater, exhibited a bold piece of rock-work, which had water running over the main structure into a pool below. *Liliums*, *Cypripedium*, and *Iris* were overhanging the water. *Wistaria* in Japanese dwarf trees were very fine indeed. Among the rock plants were the following:—*Phyteuma Chammelli*, *Mimulus Coronation*, and a host of such good things as *Dianthus*, *Primula*, including *Beesiana* and *Bulleyana*.

The Guildford Hardy Plant Nursery put up a rockery on which we saw *Senecio abrotanifolius*, some good colours in Alpine Poppies, *Anthyllis montana*, *Mimulus cupreus* (var. *Brilliant*), *Primula farinosa*, *Oenothera riparia*.

the touch of a master hand. The plants were healthy and good.

Other exhibits of rock gardens were Pulliam & Sons, Cutbush & Son, R. Tucker & Son, Bunyards of Maidstone, the Misses Hopkins, W. Fells & Son, and H. Hemsley.

#### NOTEWORTHY TREES AND SHRUBS.

THE REV. A. T. BOSCAWEN, Long Rock, Cornwall, had a most interesting collection of *Leptospermums*. The type *L. scoparium*, with its beautiful white, myrtle-like flowers, is a good conservatory plant, and is also hardy in many of our Irish gardens. The most striking form was *L. scoparium* var. *Nicholii*, a twiggy, loose grower

with flowers three-quarters of an inch across, of a bright carmine crimson, borne with the greatest profusion. It deservedly received a first-class certificate.

*L. scoparium* var. *Boscawenii* is a new seedling form raised from New Zealand seed in 1909. Bushes six feet high or so carried long spray-like branches, covered with cherry-red flower buds and most beautiful flowers. The petals are white, flushed with rose, the stamens and calyx being red, giving the impression of a white flower with a deep rose centre. *L. scoparium* Chapmanii was another interesting form, of a more erect, pyramidal growth, with rosy-red flowers.

Captain Dorrien Smith, of Kingshill, Berkhamsted, brought a collection of *Olearias* comprising thirty-three kinds. Among them were the striking *O. insignis* with the large downy leaves; the true and rare *O. ilicifolia* with its holly-like leaves, a nicely flowered plant of *O. dentata*; also *O. angustifolia*, *Colensoi*, *chatamica*, *glutinosa*, *speciosa*, &c.

Wonderful exhibits of Chinese plants were staged by Messrs. Veitch and the Hon. Vicary Gibbs. A striking plant shown by both was *Hydrangea Sargentii*. The stems are covered with scaly hairs, the leaves are about a foot long, and the inflorescence nearly a foot across, composed of fertile flowers, with a few white sterile flowers projecting from the corymb.

*Deutzia Veitchii* is a pink-flowered species introduced by E. H. Wilson. The individual flowers are an inch across, borne freely in rather close corymbs. This novelty should be a welcome addition to the hardy *Deutzias*.

*Viburnum Davidii* is a dwarf evergreen species with small flowers and blue berries. Mr. Harrow, of Messrs. Veitch's, recommends this as a shrub which grows well under trees. A *Cotoneaster* named after Mr. Harrow, *C. Harroviana*, was flowering freely in a small state.

An interesting small tree of the Persimmon family, with evergreen leaves and thorny stems, was represented by the new Chinese *Diospyros armata*.

A distinct break in the Holly family was seen in *Ilex Aquifolium chinensis*, of almost a creeping nature, while a Chinese Lilac with pinnate leaves, called *Syringa pinnatifida*, makes another new departure from the forms to which we are accustomed.

#### LIST OF AWARDS MADE BY THE ROYAL HORTICULTURAL SOCIETY FLORAL COMMITTEE AT THE ROYAL INTERNATIONAL HORTICULTURAL EXHIBITION, MAY 22ND, 1912.

F.C.C.—To *Leptospermum scoparium* Nicholii, from Rev. A. T. Boscawen, Long Rock, Cornwall. Awards of Merit—To *Calceolaria Veitchii* from Messrs. Veitch, Exeter; Sweet Pea "Melba," from Messrs. Dobbie, Edinburgh; Sweet Pea "Brunette," from Messrs. Dobbie, Edinburgh; Sweet Pea Mrs. Cuthbertson, from Messrs. Dobbie, Edinburgh; *Lastræa patens* var. *Mayi*, from Messrs. May, Upper Edmonton; *Polypodium Vidgenii*, from Messrs. May, Upper Edmonton; *Begonia* Princess Victoria Louise, from Messrs. Blackmore and Langdon, Bath; *Lilium myriophyllum*, from Messrs. Wallace, Colchester; *Eremurus Tubergeni*, from Messrs. Wallace, Colchester; *Celmisia*

*spectabilis argentea*, from Messrs. Bees, Liverpool; *Hydrangea Sargentii*, from Hon. Vicary Gibbs, Elstree, and Messrs. Veitch, Chelsea; *Oxalis enneaphylla rosea*, from Mr. C. Elliott, Stevenage; *Deutzia Veitchii*, from Messrs. Veitch, Chelsea; *Leptospermum Boscawenii*, from Rev. A. T. Boscawen, Long Rock; *Pyrethrum* "Queen Mary," from Mr. G. W. Miller, Wisbeck; *Iris squalens* Libelungen, from Messrs. Barr, Covent Garden; *I. variegata* Ossian, from Messrs. Barr, Covent Garden; *Lilium davuricum* luteum, from Mr. A. Perry, Enfield; *Papaver orientale* Perry's White, from Mr. A. Perry, Enfield; *Papaver orientale* Edna Perry, from Mr. A. Perry, Enfield.

#### LIST OF CHIEF AWARDS AT THE RECENT INTERNATIONAL HORTICULTURAL SHOW.

THE King's Cup, for the most meritorious exhibit in the show, awarded to Lieutenant-Colonel Sir George Holford, K.C.V.O., for Orchids.

Her Majesty Queen Alexandra's Cup, for the best rock garden display, to Messrs. Wallace & Co., Colchester.

The Duke of Portland's Cup, for the best exhibit in the show, Orchids excluded, awarded to Messrs. James Veitch & Sons for stove plants.

Sir Jeremiah Colman's Cup, for the second best exhibit in the show, awarded to Messrs. G. Mount & Sons, Ltd., for Roses.

HARDY PLANTS.—Sir Trevor Lawrence's Cup, for a group of herbaceous plants, *Pæonies* excluded; 1, G. A. Clark, Ltd.; 2, Artindale & Co.

ORCHIDS.—Sir George Holford's Cup, for the best and most varied group of Orchids, in a space 500 square feet, not awarded; 2, Mansell & Hatcher, Ltd.

Baron Bruno Schroder's Cup, for the best and most varied group of Hybrid Orchids, in a space of 200 square feet: 1, Armstrong & Brown; 2, J. Cypher & Sons.

Monsieur Lambeau's Gold Medal, to the exhibitor whose collection contains the most interesting Hybrid Orchids raised by himself, won by Charlesworth & Co.

Jules Hye de Crom's Cup, for *Masdevallias*, by Sir George Holford.

Messrs. Sander & Son's Cup (and £10), for the best and most varied group of Orchids, in space 500 square feet, open to amateurs, won by F. Mentieth Ogilvie, Esq.

Messrs. Charlesworth's Cup (and £7), as second prize to the above, won by Sir Jeremiah Colman, Bt.

ANNUALS AND BIENNIALS.—Mr. A. E. Speer's Cup, for a display of hardy and half-hardy annuals, 100 square feet, won by F. Smith & Co.

National Chrysanthemum Society's Gold Medal, for twelve bunches *Chrysanthemums*: 1, Wells & Co., Ltd.; 2, J. E. Knight.

CARNATIONS.—Lady Colman's Piece of Plate (and £7), for a group of *Malmaisons*, 150 square feet: 1, C. F. Raphael, Esq.; 3, C. Turner.

Gold Medal of the Perpetual-flowering Carnation Society, for a display of cut Carnations, 100 square feet: 1, Bertie E. Bell; 2, Allwood Bros.; 3, C. E. Waters.

Wallace & Co.'s Cup, for rockery, 100 square feet (amateurs); no competition.



## Roses.

By O'DONEL BROWNE, M.D.



WHAT with an abnormal amount of sunshine and heat and a great want of rain, roses are abnormally early. Even as I write, in mid-May, my wall roses are sending me flowers every day, and though they are not up to standard, still they are roses. Climbing Sports, such as Mrs. Grant and K. A. Victoria, are now in full swing. This I think is a pity, as one can never really show Mrs. Grant from here well at a show, for the reason that my garden is a sun trap, and consequently my flowers of this variety are always over. How I should like just once to drop on a show with my Mrs. Grant in good form! I have tried her in different places and aspects, but she, strange to say, glories best where I least like her. I have always

considered this variety the best that Alex. Dickson & Sons ever sent out, and when in Newtownards I mentioned this fact, and was delighted when the senior member and founder of the firm agreed with me. Talking of George Dickson, senior, reminds me of the new seedling just on the market which bears the same name. What flowers I have seen of this grand rose have been beautiful. It is a grand acquisition to our meagre list of dark-red Hybrid Teas, and, unless I am in the dark, it will be a lasting memento of the G. O. M. of Newtownards. All I can say is that I hope it will be good enough to be called after such an illustrious man. In rivalry to this rose, which stands at the prohibitive price of a guinea a plant, there is another called George V. from Hugh Dickson, also at a guinea a tree. The flowers of this rose are somewhat like Alex. Dickson's variety, and when shown here in Naas last August were very beautiful. There was another variety in Hugh Dickson's lot which has a curious name—*Souvenir de Portland, Oregon*—and which, I am told, has been sold to America. Why it should have gone there is a mystery, as, from what I know, when the Vankees get a rose there from here and want to distribute it back here again, they get the best of the bargain. Take *Her Majesty*, for instance, which the late Henry Bennett gave us from England. It, too, was bought by America, and when sent back to us we were had by getting plants which had been budded from wood buds and not the flowering eyes. This I hardly think will happen with *Souvenir de Portland, Oregon*, as this rose, I am told, is a free-flowering variety, whereas *Her Majesty* is a

shy bloomer. At any rate, when we do get this very fine variety back from America we will welcome it as a rose of some worth. Yet another rose went and came back to us under another name, it's true, but we over here were not to have a Yankee christening, and some stuck to the original name. I of course allude to Mrs. W. J. Grant—Stesser's Siebrecht, called here *Belle Siebrecht*—but we were not to be outdone. Of late, I am sorry to say, I have not attended to much Rose literature, so I do not know very much of other novelties. They may be plenty of sterling merit, but the three novelties I have mentioned are, in racing parlance, "Nap."

## Some New and Choice Saxifragas for the Rock Garden.

By MURRAY HORNIBROOK, Knapton, Abbeyleix.

MOST of the spring shows are now over, and no doubt many of us have ticked off the names of new and rare plants that we hope to add to our collections. The present is an excellent time for acquiring Saxifragas, most of them have flowered and are starting their new growth, and the wise man buys them at once and does not wait until the autumn. Even if it be too hot and dry to plant them from their pots it is very little trouble to plunge them in some cool corner, and by purchasing them now we pay no more than we do for the autumn plants, and gain this season's growth and a certainty of flowers for next season.

The following notes may prove useful to those seeking to enlarge their collections by the inclusion of some of the newer and rare sorts which they have not hitherto tried.

*S. apiculata alba* is rather looser in growth than the type and hardly, to my mind, so floriferous; it bears, however, quantities of loose-petaled white flowers of a good tone.

*S. Elizabethæ*.—Two or three forms of this are in commerce. The best has very compact foliage, like a dark-green *S. Burseriana*, and bears its pure primrose flowers on erect stalks. I have another form with long straggly growths, like an elongated *S. sancta*; its flowers are similar to the other, but not so freely borne. Though flowering best in full sun, I find both somewhat liable to burn in the centre in dry summers unless the soil be very stony.

*S. L. G. Godseff*, or *sancta speciosa*, is very near the best form of *S. Elizabethæ*, and I think superior to it. It covers itself with flowers of pure primrose-yellow, which last a long time. It is a cheery plant, and with me stands any amount of sun.

*S. Petraschii*.—The best of the new whites, very silvery foliage and fine, pure-white flowers, of good shape and substance. It deserves to be widely known.

*S. Rocheliana lutea* is still very scarce, and I do not think it worth the fuss that has been made about it. The flowers have pale yellow petals, pointed, and not closely set together.



*S. Borisii*.—This seems to me to be the gem of the section. It has every good point, a good doer, very floriferous—simply covering itself with its large yellow blossoms of perfect shape, substance and tone. The flowers are borne erect on stiff stems, and are altogether desirable.

*S. Paulinæ* is, I believe, still the first choice of Mr. R. Farrer, but here it is somewhat uncertain. It is perhaps daintier, with its silvery spines and yellow blossoms on fairy-like stems; but I find all the *Burseriana* hybrids—*Boydii*, *Faldonside*, &c.—*Paulinæ*'s close relations—uncertain of temper and liable to go off and leave one lamenting without apparent reason. So my poor vote goes for *S. Borisii*, which does not disappoint me.

*S. Kyrillii*, a new yellow of merit, but overshadowed by *Borisii*. Its flowers lack that perfect roundness so absent in flowers of *S. marginata* type and so present in *S. Burseriana*.

*S. Obristii*, a fine hardy plant, of somewhat straggly growth, and so far not too generous with its large, pure-white flowers. The flower stems are rather loose and inclined to flop.

*S. macedonica* is at present very rare. It has close-tufted, spiny foliage like a lighter coloured *S. juniperina*. It never flowered for two years, and languished until I realised that it does not appreciate lime. It now looks quite healthy in loam and sandstone chips, and is going ahead. It is quite distinct.

*S. dalmatica* is choice and wee, with white flowers on short stalks.

*S. Boryi* is one of the most distinct *Saxifragas* of the section, forming perfect miniature rosettes like minute *Gardenias* and having white flowers.

All the above belong to the *Kabschia* section, and, with the exceptions mentioned, are perfectly easy in any open position, not too torrid, in good loam and abundance of limestone chips. Most of them, however, are still scarce and expensive, and if I had to choose a few for a small garden I should select *S. Borisii*, *S. Petraschii*, *S. Boryi*, *S. Paulinæ*, and *S. L. G. Godseff* as the most distinct. In my grumble at the *S. Boydei* cousinhood I overlooked *S. Cherry Trees*, which so far seems happy and contented with this world, and in no hurry to depart. He has not cheered me with many flowers; however, he has grown at such a rate something must happen next season.



## TWO NEW PYRUS.

ACCORDING to Messrs. Spaeth's (Berlin) catalogue *Pyrus magdeburgensis* originated in the Municipal Pleasure Grounds at Magdeburg, and is thought to be a cross between *P. spectabilis* and *dasyphylla*. This new hybrid promises to be one of our best flowering trees; when fully expanded the flowers are 1½ inches across, borne in good trusses, the young ones are a deep rich rose red, becoming paler as they get older.

*Pyrus Zumii* is a new species from the middle of Japan, flowering in April, about a week or so in advance of the first-mentioned. The flowers are smaller than those of *P. magdeburgensis*, but are borne more freely in large clusters; in bud they are a deep, rich red, but become almost white as the flowers get older.

## The "Gem" Pentstemons.

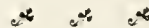
THE value of Pentstemons in flower gardening was never greater than at the present time.

Few subjects are more effective for an autumn display, whether used in large beds of one variety or in groups of various kinds in the hardy flower border. The handsome large-flowered kinds of which Joseph Chamberlain, John Forbes, &c., are good examples, are justly popular and freely admired. To grow these well it is essential to take cuttings every autumn, about the beginning of September, when they root readily in boxes of sandy soil placed in a cold frame and kept close and shaded for a few weeks. For the next season's display they may be put out in April. The members of that set known in gardens as the "Gem" class differ from the above in several particulars. In general habit they seem more akin to *Pentstemon Hartwegii*; indeed, *P. Newberry Gem* is probably nothing more than that species under another name. Compared with the large-flowered kinds the leaves of the "Gem" class are much narrower and more glossy and the flowers smaller, more inclined to be tubular than bell-shaped. The most important difference, however, lies in their much greater hardiness. Planted in ordinary well-prepared beds or borders they will live for years, only deteriorating from exhaustion of the soil around them in the same way as any other perennial. A greater enemy than frost is cold wind in spring after the young growths have commenced to grow. For this reason it is a good plan not to cut down the previous year's growths till about the first or second week of April. These protect the young shoots which spring from the base and usually carry the finest flowers. In suitable positions quite large specimens may be obtained by leaving the last year's shoots intact. These are of course sub-shrubby, and in sheltered positions "break" freely, rendering the plants highly decorative and imposing throughout the summer and autumn.

The best of this class are *Newberry Gem*, with long narrowly-tubular deep scarlet flowers borne in long graceful spikes; *Southgate Gem*, a beautiful variety larger in all its parts than the last named, the flowers crimson scarlet, showing whitish lines in the throat; and *Myddelton Gem*, a charming acquisition producing elegant spikes of soft pink blossoms. There is also in commerce a form known as *white Newberry Gem*, which is to all appearance identical with *P. campanulatus albus*. It also is worth attention, as two or three year old plants when left alone in suitable positions form attractive specimens.

The propagation of the "Gem" set differs in no way from that of the larger-flowered kinds alluded to above.

J. W. B.



"Plant blessings, and blessings will bloom,

Plant hate, and hate will grow;

You can sow to-day, to-morrow shall bring

The bloom that shows what sort of a thing  
Is the seed—the seed that you sow."

## Hints to Amateurs.

By R. M. POLLOCK.

**SWEET PEAS.**—If dry weather prevails give plentiful supplies of water, and see that this is thoroughly done and reaches the roots. It is much better to give a couple of good waterings during the week than merely damping the surface every two days. As soon as the buds form, weak liquid manure may be given. If this is not easy to procure weak doses of nitrate of soda or soot water, properly prepared, may be used. When supplying plants with these fertilizers, remember that it must be done either after rain or after watering. Plants should never get any liquid fertilizer when the soil is dry. When the flowers open pick them. If the plants are allowed to form seed pods their flowering season will be greatly shortened. If sweet peas are to be sent by post they should be allowed to stand in water for an hour or more before packing, and then packed closely and firmly.

**DAHLIAS** planted out towards end of May should be protected from slugs by a ring of soot round the base of the stems. Thin the shoots out to four or five and stake these firmly. Dahlias are gross feeders and should be planted in good rich soil, and the manure should not be spared.

**STAKING.**—All tall-growing plants in the herbaceous border will require staking, as growth is now rapid, and the shoots are soft and tender, and easily broken by high winds. Such plants as Oriental Poppies, Carnations, Delphiniums, Monkshood, Columbines, and the handsome, tall Eremurus and many others. The same applies to many of the annuals—Shirley Poppies, Cornflowers, Mallows, &c.; they will all require a certain amount of support. When carefully done, and above all done early, it can be made to show very little, but nothing looks worse in a border than badly and late staked plants.

**SEEDLINGS.**—Great care should be taken in pricking out seedlings. At this period of their existence they are very tender. If pricking into boxes have the soil fairly moist before starting to work. Make the hole sufficiently large to hold all the roots, and firm the soil well round the neck of the seedling. This is half the life of a seedling. Attend carefully to watering. Over watering is responsible for as many, if not more, deaths than the lack of it. Thin all seedlings where sown too thick. It pays well to do this, as each plant can then attain its full size.

**ROCK PLANTS.**—Where these have gone out of flower they should be cut over, which will cause them to break away and make fresh growth, and it also gives them a tidy appearance. This applies to such plants as Aubrietias, Arabis, Alyssum, Perennial Candytuft, (Iberis), Saxifrage (mossy), &c. Keep old flowers cut off Violas and Pansies, which will lengthen their flowering period. Primroses and Auriculas should be lifted after flowering, divided where necessary and replanted. If left in the ground they will get loose round the shank and by degrees die away. The reason for this can be easily understood. If, when lifted, a plant is examined small, white, young roots will be found coming away from the base of the leaves, above the old soft and decaying roots. Unless the plants are lifted and replanted firmly they loosen in the ground before the young roots are able to support them. Under natural conditions Primroses are not

found growing on bare ground, where all leaves are carefully raked away from round them. They are found in shady places, where leaves, &c., are continually falling and remaining undisturbed, thus covering the roots with fresh mould.

**ROSES.**—Keep a sharp look out for fly and grubs of all sorts, and spray as directed in last month's hints. Where possible a mulching of manure will benefit the plants, and if this is considered unsightly shake a little soil over it. Occasional drenchings of liquid manure will also be beneficial.

**WEEDS.**—These will be getting troublesome as the season advances, and the hoe should not be spared. There are two kinds that have to be considered—the annual weeds, such as Shepherd's Purse, Groundsel, Speedwell, Pimpernel, Purplenettle and Chickweed, &c., can easily be removed by the hoe, and if done early they can be prevented from forming and scattering their seeds. But such weeds as Dandelions, Daisies, Bindweed, Plantains, Coltsfoot, and unfortunately many others must be rooted up entirely. Their roots are perennial, and merely cutting off the leaves and flowers will not prevent their reappearance.

**GREENHOUSE.**—Shrubs that have flowered in cool houses may be stood out of doors to ripen their wood and to clear the house for their summer plants. This applies to Azaleas, Genistas, Veronicas, Prunus, &c. Arum Lilies which have flowered may be taken out of their pots and planted in a shady corner. Cuttings of the Zonal Pelargoniums put in in April will now be the better of a shift. Pot them off into five inch pots, rub out the flower buds, and water as soon as potted.



### THE CINNAMON VINE.

THIS plant, which is also known as the Chinese Yam, and botanically as *Dioscorea divaricata* or *D. Batatas*, is a native of the Philippines, but is cultivated in most tropical countries for the sake of its edible tubers.

In our Irish climate, under every favourable conditions, it may possibly grow to a height of fifteen feet, and it dies down to the tubers every winter.

It bears heart-shaped leaves and clusters of small white flowers, which are cinnamon-scented. Altogether, it may be said that for our climate the Cinnamon Vine is a very second-rate climber, and does not deserve much commendation.

### REVIEW.

"THE PRACTICAL SCHOOL GARDEN NOTE AND RECORD BOOK," published by Messrs. Longmans, Green & Co., price 6d. It is prepared by John Weathers, Horticultural Lecturer to the County Council of Middlesex, and author of numerous garden books. The note-book is intended for scholars engaged in school gardening, to teach the students to keep systematic notes and records. For instance, a list of the commoner garden flowers and vegetables is given, and the student fills in the blank columns—the date of sowing, date of flowering, height, colour, &c. A set of questions are given to test the progress of the student, and answers to them may be found in Mr. Weathers' little book on "School, Cottage and Allotment Gardening."

## Dwarf Hardy Rhododendrons.

**I**N this large and generally beautiful genus, representatives of which are found in India, China, Japan, North America, Europe, &c., there are several dwarf species—some of quite recent introduction—which are useful in many ways in parks and gardens. Moist, sandy peat, free from lime, and sheltered from rough winds, provide the best conditions for the successful cultivation of these and other Rhododendrons.

For informal groups or beds near by or among pines these dwarf species are well suited, as it often happens that a healthy soil which suits many pines provides, with little trouble, just the right conditions for Rhododendrons. On the other hand, they may be planted equally well near to deciduous trees in such a way that they will be screened from the hot summer sun and protected from cold, hard winds.

The shady side of the rock-garden also may be made beautiful and interesting by planting groups and colonies of these dwarf Rhododendrons in association with hardy Heaths, Gaultherias, Ledums, Vacciniums, and other members of the same family.

Two of the better known species are *R. ferrugineum* and *R. hirsutum*, both known as "The Alpine Rose"

and both found wild on the European Alps. Those who have seen them in their native habitat speak highly of their beauty, and they prove equally charming under cultivation. Of low, somewhat rambling habit, both may be suitably used on the rock-garden and about the approaches thereto. Both are evergreen, bearing small leaves of a rusty or brownish colour on the under surface, and dense heads of flowers rose-red with yellow spots in the case of *R. ferrugineum* and bright red with tiny brown spots in *R. hirsutum*. There is, in addition, a rather pretty, white-flowered form of *R. ferrugineum*.

The "Indian Azalea" (*R. indicum*) is commonly grown in gardens as a greenhouse shrub, but is represented in the outdoor garden by *R. amenum*, a Chinese form, classed by botanists as a form of *R. indicum*. It forms a neat, low-growing shrub, two or three feet high

when mature, bearing small, deep-green, ovate leaves and clusters of bright magenta-coloured flowers.

*R. indicum* var. *balsaminæflorum*, much better known as *Azalea rosæflora*, is one of the most beautiful dwarf shrubs imaginable. It is of a more trailing habit than the last-named, well suited for hanging over a friendly stone. The plant is evergreen and bears attractive, salmon-red, double blossoms in early summer.

*R. intricatum* is quite a recent introduction from Yunnan. It is said to reach a height of three feet, but plants a foot or so high flower freely. The flowers are violet-blue, nearly the same shade as those of *Primula marginata*. The tiny leaves are covered with small

whitish scales, giving the plant a hoary appearance quite unique. Flowering in March and April.

*R. kamschaticum*, from North Asia and North-Western America, forms a low, procumbent shrub, some six or nine inches high. The leaves are deciduous, more or less oval in shape, and the solitary flowers carmine purple. A useful rockery subject.

*R. lapponicum*, found in the Arctic regions, is a dwarf species, growing some six inches high, bearing small, rather ovate or elliptic, leaves, which are furnished with brownish scales. Flowers bell-shaped and rosy-purple in colour.

*R. racemosum*, introduced from Yunnan over twenty years ago,

is an extremely pretty species, producing in April abundance of lovely pink and white flowers. It is a useful kind for beds and makes a charming subject for the rock-garden.

*R. rubiginosum*, which may reach a height of three feet, is another Yunnanese species. It is evergreen, bearing corymbs of rosy-red flowers in spring.



### HONOUR FOR HORTICULTURAL SCIENTIST.

WE learn that the King has been pleased to confer the honour of knighthood on Mr. Harry James Veitch. Mr. Veitch was one of the officials who received the King and Queen and other members of the Royal Family when they visited the International Horticultural Exhibition at Chelsea. He has done much for the science of horticulture.



Photo by]

RHODODENDRON RACEMOSUM.

[C. I. B.



## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.



**JUNE** will be a busy month in the flower garden, all spring bedding plants having been cleared away from beds and borders and the soil prepared for its new occupants, which are expected to give a display during summer and autumn. When planted, they should be encouraged to make new growth as quickly as possible, so as to fill their allotted spaces, by careful watering should the weather be dry, and by stirring the surface soil between the plants and removing their first blossoms.

Dahlias should have their supports placed to them when planted, so that their new tubers will not be injured by inserting stakes later on.

Iris, Paeonies, Lupinus of sorts, Delphiniums, Linums, Geums, and many others will keep up a display until the summer plants are established.

A neat and tidy appearance should be maintained by having grass mown and walks edged, cleaned, and rolled.

Clematis and other creepers should be trained as growth advances, and encouraged by an occasional watering with liquid manure.

Stake Sweet Peas, and in the first week make a final sowing from which to pick for house decoration in late autumn.

Keep Alpine plants free of weeds, top-dress with a gritty compost those which have finished flowering, also water if necessary.

Many of the Dianthus will now be at their best; they are both interesting and beautiful. A great many Alpines flower during this month, so that the rock garden will now be very attractive.

Annuals must now be thinned and watered so as to obtain good results.

See that Roses, &c., are kept free of greenfly and other pests. If troublesome, spray with Quassia Extract, in the proportion of one pint to four gallons of soft water, applied in the evening.

It is now time to make preparations for next winter and spring by sowing such as Pansies, Myosotis, Polyanthus, Erysimum, Daisies, &c.

Wallflowers sown last month will now be up, and should be kept free of weeds. Arabis, Aubrietia, Violas, &c., which were lifted and lined in, should be encouraged to make young growths from which the necessary cuttings can be obtained for the coming winter and spring supply.

## The Fruit Garden

By L. CHILDS, Gardener to the Earl of Meath,  
Killruddery, Bray.

**GRAPE VINES.**—The temperature may now be kept at seventy degrees at night and eighty-five degrees during the day, with a constant circulation of air when the sun is shining. Avoid sweeping draughts when the berries are stoning. The weather in May was very favourable for breeding red spider and thrip, so be on your guard against these pests, and syringe well morning and evening until the bunches begin to colour. After that nothing but sponging will prove efficacious without injury to the grapes. Houses containing ripe grapes will not need very much water, but the paths should be damped down twice a day at this early season. Leave plenty of front and top ventilation all day long, and, of course, some on the top of the house all night. Grapes in late vineries will not require much fire-heat at this period of the year. Stop and regulate the shoots, as previously directed, for early crops, thin the berries and tie the shoulders of large bunches that are needing support.

**EARLY PEACHES** should now be ripening, and then they will not need spraying overhead, but be careful to give them plenty of clear water at the roots, also keep laterals pinched off and the leaves clear of the fruit, allowing them to get full advantage of the sunshine.

**FORCING STRAWBERRIES.**—These should all be cleared out of the houses as soon as possible. Do not keep them hanging about for the sake of a few fruits. Remember that there is always great danger of red spider and mildew spreading from them on to other things, especially when they have to be grown on shelves in vineries and peach houses. Save some of the cleanest plants out of six-inch pots for planting out on a south border. Then with proper attention they will produce a moderate crop of nice fruit for use in the autumn, when they are always highly appreciated if you can supply a few nice dishes for the dinner table.

**FIGS.**—The first crop will now be almost finished, and the trees should be encouraged to produce a second supply. Commence syringing them again, and avoid a close atmosphere. Then generously, but carefully, water them with weak, fresh manure water, and be careful not to overcrop them. Tie in sufficient leading shoots, stop laterals and avoid overcrowding, and you should get ample reward for any trouble and labour you may expend on them.

**HARDY FRUIT.**—Looking carefully over my fruit trees I am perfectly satisfied that almost every kind of tree will produce a fair yield. Cherries, plums, gooseberries, and currants have all a good set on them. Pears, perhaps, or at least some sorts, are a little under average. And the same may be said about the different varieties of apples. The cold gloom, with often a touch of frost, of course, accounts for this. Then the want of rain during the last few weeks of May was very much against them also, and in favour of insect pests. Protect sweet cherries and strawberries with netting when the fruit begins to colour to keep the birds away. Nail or tie in all leading shoots for covering bare spaces on the walls. You may also

disbud and thin out some of the superfluous shoots, but do not be too severe in this important work, which requires considerable experience. July will be soon enough for the principal stopping, &c., but remove any curled or blistered leaves when they are detected, and try to find time to syringe them with Quassia Extract, and see that all trees planted during last autumn and spring do not suffer for want of water.

## The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor,  
Co. Kildare.

**T**HIS month will be a busy one in the vegetable garden, though most of the seeds have been sown. Transplanting will claim attention in getting out the various winter crops. The past month has been so dry that where the hoe has been kept going few weeds are to be seen, and the crops look most promising. I know that potatoes and many small seeds, especially of the Brassica family, suffered much by the severe frosts on the nights of May 12th and 13th; still, with some heavy showers since, the plants have recovered quickly. Where the seeds have been sown thickly the plants will soon get weak if left without being transplanted into nursery lines, and this is most necessary where the intended ground for planting is occupied with a growing crop, and the permanent planting can be delayed to a later date, lifting the plants from the nursery lines with a fork, preserving as many roots as possible on the plants; treated this way the plants will be found to grow better and withstand more frost without injury in the winter. In planting out winter and spring broccoli it is not necessary to have very rich ground, but make it firm. Plant as early in the month as possible Autumn Giant and Self-Protecting Broccoli in lines  $2\frac{1}{2}$  feet apart and 2 feet from plant to plant. Later in the month, on less heavily manured ground made firm, plant Winter Mammoth, Snow's Winter White, Mount Blanc, Leamington and Model Broccoli for succession. As cabbage plants from the spring sowing become fit, plant out in rows 2 feet apart, and the ground can scarcely be made too rich. In this month the main crop of celery should be planted, and Solid White and Standardbearer are two of the best kinds, and the latter, a red variety, can be kept very late into the spring. Open good wide trenches one and a half feet wide and deep and give a heavy dressing of rich, well-decayed manure. After the celery has made a good start in the trenches a top-dressing every two or three weeks of superphosphate three parts, and sulphate of potash and nitrate of soda one part each, and well watered in, will very much improve the appearance and size of the plants, giving also an occasional dose of liquid manure, but at the beginning give it in a weak state.

Parsnips, carrots and beet should be singled out when large enough, and if fly attacks the plants spray with soap and water, and dust the plants every week with soot. Onions also will require thinning, if not already done; and, so far, I have seen no sign of the onion fly; but thin early, and give the crop a dressing of artificial manure every two weeks, as recommended for celery.

If the plants are attacked pull up and burn those attacked and syringe the remainder with soluble petroleum, two ounces to a gallon of tepid water, treading the ground to make firm close to the plants.

Stake peas and climbing beans as they require them. A last sowing of Gladstone pea can be made at once, and later in the month make a sowing of an early variety, as Gradus or Pilot (tall), and Daisy or Webb's Little Marvel (dwarf). During the month make a couple of sowings of turnips, spinach, lettuce, radish, endive, and French beans, for the first four selecting a cool, rich border, so as to keep them as long as possible fit for use and not going to seed or getting stringy.

## The Irish Rose and Floral Society.

THE Irish Rose and Floral Society holds its second annual show, in conjunction with the provincial show of the National Rose Society, in the Botanic Park, Belfast, on Friday, the 19th of July. Last year's show was a great horticultural success, and we are pleased to see by the report that a balance on the credit side was shown. The visit of the National Rose Society of England will add great importance to the show, so that all Irish rose-growers will endeavour to show their top form to friends across the Channel, and all garden lovers should attend and give assistance if possible to make the first visit of the N. R. S. a notable success. There are 49 Classes for Roses; the prizes are most generous, and six of the N. R. S.'s Silver Medals will be awarded.

The Schedule is comprehensive and particularly strong in Sweet Peas. There are twenty-four classes in which really substantial prizes are offered, including numerous challenge cups, valuable plate and good money prizes. In other classes, too, the prizes seem considerably in advance of what is usually offered.

In the Miscellaneous Section there are classes for Hardy Garden Flowers, Annuals, Carnations, Begonias, &c. Entries on the Rose Section close on 15th July; entries in the Miscellaneous Section close on 12th July. Schedules may be obtained from H. P. Pinkerton, Hon. Sec., 18 Victoria Street, Belfast.

Intending competitors should be in possession of their schedules as soon as possible, so that the rules, &c., may be carefully studied.

## Show.

THE second annual exhibition of the Galway Horticultural Society of Fruits, Flowers and Vegetables will be held on Tuesday, the 13th August. In the open classes a Silver Challenge Cup is offered for Border Carnations. Another Silver Cup is offered for Sweet Peas, and the Jones Challenge Cup for Gladioli. Entries close on August 1st, and Miss J. T. Armstrong, Mount Pleasant, Ballinasloe, is secretary and treasurer.



In nature, as in life, the sweetest things are around us, they spring up at our feet.—*Downes.*

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# Irish Gardening

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ADVANCEMENT OF HORTICULTURE AND  
ARBORICULTURE IN IRELAND

JULY  
1912

## The Nursery Treatment of Difficult Transplanters.

LIBRARY  
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BOTANICAL  
GARDEN

By A. C. FORBES, Director of Avondale Forestry Station.

**T**HE transplanting of trees is such an old and time-worn subject that there is probably little to say or write about it that is absolutely new. But when the literature on this subject is looked up, especially that found in text-books and other treatises which pay more attention to the abstract than the concrete, one seldom finds sufficient emphasis laid upon the great importance of preparing the tree beforehand for the critical process of transplanting in the ordinary rough-and-ready way in which this work has to be done in order to save time and expense in forestry practice. The most suitable age or size of any particular species for undergoing the operation of removal is usually specified, but beyond the fact that it should be once or twice transplanted, or so many inches in height, as the case may be, little is said about the actual condition or constitution of the plants, or the special training they should undergo before they are submitted to a process as unnatural as keeping a fish out of water or a man under an anæsthetic. Yet the actual operation of transplanting is a small matter compared with the treatment the plants have received during the previous year or two. A nursery in the strictest sense may be regarded as a training school for trees, a school in which they should acquire strength, understanding, and independence—strength as shown in their ability to stand erect and undaunted when exposed to cold and wind; understanding, in the shape of a well-developed and not too straggling root system; and independence

enough to be able to ignore rough lifting and exposure to air and sun during the interval between lifting in the nursery and transplanting in their permanent homes, which may, in the event of too severe treatment, prove to be their graves.

The question remains: How can these characters be acquired by the tree, and what assistance can the forester or nurseryman give it in acquiring them? As regards the tree itself, much depends upon the view it takes of things in general during the first year or two of its existence. The ambitious species, with a strong desire to raise its head above the surface, usually concentrates most of its energies on the production of stem and leaves, and, with abundant soil moisture at its command, overlooks the fact that a day will come when the spoon-feeding provided by a rich soil will cease, and it will then have to search slowly and painfully for its nourishment in deeper and poorer soil strata. Such a species will usually neglect its root system and allow it to develop a few strong, far-reaching roots, with too small a number of feeding roots to fasten upon every square inch of soil within their reach and hold on until they are asked to work for the stem above them. Other, again, realising that life is not going to be all beer and skittles, and that the "downs" are likely to be more plentiful than the "ups," at once begin to develop a thick compact root system which will enable them to take full advantage of anything the soil has to offer, and sustain life in the

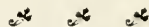
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face of numerous hardships and set-backs which are incidental to the career of most trees. Examples of the former may be found in Corsican, Austrian, and maritime pines, amongst conifers; and in oak, chestnut, walnut, &c., amongst broad-leaved species. With the pines, the main idea is probably that of getting a deep footing in dry soils as quickly as possible, trusting to a chance later on of developing the more fibrous feeding roots, while the broad-leaved trees named are usually indigenous to good deep soils, in which water and nutrient solutions can be absorbed without great difficulty. Spruce, Silver Fir and others, again, accustomed to start life in shade and under conditions which do not favour rapid growth, usually form a dense mass of roots, and make little top growth until the fourth or fifth year.

The means at the disposal of the nurseryman towards assisting the tree in fitting itself for the ordeal of final transplanting are mainly in the direction of giving it ample space for root and stem development, preventing any competition for light and air from weeds, and promoting the formation of fibrous roots by a well aerated soil and frequent removal in the nursery lines. Simple operations all of them, but too often forgotten or lost sight of, or neglected owing to bad weather or a rush of work at critical periods. Properly attended to, however, and followed by reasonable precautions at the time of planting, they mean all the difference between failure and success, and with a few difficult transplanters, success need never be looked for unless some such measures are adopted. No species, for instance, gets a worse name amongst ordinary forest planters than the Corsican pine. Yet, if strong one year's seedlings are carefully lifted in September or October, or at the end of April, lined out for a year in the nursery, lifted again the following autumn or spring, and finally planted out the third year, this species is almost as easy to transplant as Scots pine. Let it once become top heavy, however, subjected to rough handling or lifting, or the roots unduly exposed to sun or wind, and the percentage of deaths may be anything from 50 to 100 per cent. With all these species, again, an excellent plan is to lift them from the nursery lines in the early autumn, lay them in very thinly in trenches, and finally plant them out as late as possible in the spring, dipping the root in a clay puddle if

the weather should be hot or dry. The advantage of this autumn lift lies in the fact that the broken or damaged roots are gradually replaced during the winter and early spring, and while this process is going on the plants are lying in a sheltered spot, and evaporation is reduced to a minimum. With careful handling, nearly all the newly-formed roots should be preserved intact, and the plants are at once in a position to start into growth when planted out. This method has been found fairly successful with such difficult transplanters as *Cupressus macrocarpa* and *Pinus insignis*, and should always be adopted where there is any great risk of failure. With broad-leaved species, many of the precautions necessary with conifers may be modified or dispensed with, beyond that of frequent transplanting, and with good rooting species, such as spruce or silver fir, ash, &c., the exercise of ordinary care in lifting, transit, and planting should be sufficient to ensure success.

In conclusion, one word may be said against careless lifting, especially on heavy soils. Bad as the breaking of roots may be it is comparatively harmless compared with the skinning process which follows pulling the roots out of the ground by main force, and which is usually sufficiently injurious to render the plants thus treated incapable of withstanding any hardship for two or three months afterwards. In fact, nursery work all round, to be successful and to lead to successful results, means care in all directions, and given this, very few species exist which cannot be raised and transplanted successfully.



#### HEATING THE BANK OF ENGLAND.

THE Bank of England is about to be fitted with a system of central heating and hot water supply which will be one of the largest and most complete private installations in this country. The heating will be effected by means of hot-water pipes and radiators, and as the building covers an area of two and a half acres the circulation will be accelerated by electrically driven pumps, so that the radiators at the extreme points of the system will be practically as hot as those close to the boilers. Altogether there will be about 600 of these radiators, and they will be supplied from six boilers, some of which can be cut off when the weather conditions do not require the whole power. The hot-water system will also extend over the whole building, and hot water may be drawn at any point where a tap is fixed. The work will be carried out by Messrs. Mackenzie & Moncur, Ltd., Edinburgh and London.

## Fuchsias.

By W. H. GREENE, Hermitage Gardens, Dundrum.

THESE delightful subjects are receiving more attention with both amateurs and professional gardeners every year. Their usefulness both in the greenhouse and outside gardening is becoming more apparent, they adapt themselves to so many novel purposes. Nothing is more pleasing than to see plants trained up the rafters of the greenhouse, with their quaint bells hanging in clusters; or, as we often see them, in large beds as dot plants associated with other suitable subjects. Plants about four feet high, with a nice head, make a pleasing combination with the heliotrope and *Streptosolen* trained in a similar manner, with a suitable ground-work of other bedding plants. As pot plants they claim for themselves the honour of being one of the oldest favourites for the conservatory, also the exhibitor. A few years back one could often see magnificent specimens, seven feet high, liberally covered with their delicate waxy flowers. Good shapely plants in pots from five to eight inches are extremely useful for the greenhouse; they will remain in bloom for three or four months.

The culture is very simple. Cuttings can be taken in the month of August and inserted in pots or boxes in a mixture of nice light, sandy soil, with leaf-mould added, and should receive a good watering with the fine rose-can before being placed in the cold frame, which should be kept closed till root action takes place, usually taking from two to three weeks. When the little plants have made a few roots they should be carefully potted off in 3-inch pots, using a similar compost as before. Place them well back in the frame, and again water well. Keep close for a few days till they have obtained possession of the new soil, give a little air by degrees, gradually harden till the plants can be removed to the greenhouse shelf, where, with a little warmth, they will keep growing slowly through the winter. In the month of February potting into larger size pots will be necessary, also regular pinching of shoots to form nice bushy specimens for the conservatory the following summer.

If standards, or dot plants as they are usually termed, are necessary, from the commencement keep all side growths pinched out, place a neat stake to the plants, and encourage them to grow to the desired height, then pinch the centre out

to form a nice head. When this has been achieved gradually harden off before they go to their final quarters outside.

Fuchsias delight in a good, rough, porous soil, consisting of loam, leaf-mould and sand, with a little dried cow manure broken up fine mixed through it. During the growing season they should never be allowed to become dry enough to cause the foliage to droop. During the flowering period the plants will be greatly benefited by weekly applications of diluted farm-yard manure water. When the plants have finished blooming in the conservatory they can be stored away in a frost-proof cellar till spring, when they should be brought into the greenhouse and receive a good hard pruning, cutting all the previous summer's growth back to a few buds; repot if necessary, and grow on. With regard to varieties, there are ample to select from. The single variety holds place of honour in most departments. A few free-flowering varieties are *Elegance*, *Royal Purple*, *Wave of Life*, *Rose of Castile*, *Mrs. Marshall*, and *Princess May*. A word of praise must be given to the double varieties, as they are very attractive. As pot plants their massive corolla adds considerably to their beauty. *Avalanche*, *Marvelous*, *Phenomenal*, *Ballet Girl*, and *Miss Lucy Finnis* are among the most showy varieties.



### ELEOCARPUS CVANEUS.

The good qualities of this distinctly beautiful greenhouse shrub have received due recognition, and the Royal Horticultural Society have awarded Messrs. J. Veitch a first-class certificate for some well-flowered examples. The plants exhibited were about two feet high, freely branched and profusely flowered. The flowers are produced in Lily-of-the-Valley kind of sprays, with deeply-fringed, hanging white bells. The specific name of this shrub is derived from the handsome blue, berry-like fruit which usually is freely borne in autumn. This shrub has long been grown in botanic gardens, but deserves far more extended culture as a really good greenhouse shrub. It was introduced as long ago as 1803, and is a native of Australia.



*PHORMIUM tenax* is at present in wonderful bloom in many gardens in Co. Dublin. The flower shoots showed this year in beginning of May in great profusion, one small plant having twelve strong shoots, each about three feet long, on the 6th May.

In the rock garden, Mount Henry, Dalkey, there was to be seen a small plant of *Saxifraga cochlearis* major with twenty-nine separate flower shoots. This plant has always bloomed well, but nothing like so finely as this season.—R. Mc M. S.



## A Visit to Narrow Water Castle,

CAPTAIN HALL'S RESIDENCE IN CO. DOWN.

MANY times have I had the pleasure of visiting these beautiful grounds, but never was the pleasure greater than on a glorious afternoon in mid-May, when the number of interesting and beautiful plants in flower would fill a book. The weather of last year is credited with being the cause of so many of our trees and shrubs flowering with the remarkable profusion they are doing this spring, and one of the most important results obtained is the flowering for the first time in this country of *Magnolia hypoleuca*—a large, handsome-leaved tree, which has been “watched and waited on” for nigh a score of years, and has this season developed four flower buds which will be open early in June.

Perhaps the finest mass of *Solanum crispum* ever seen is to be found here which was a mass twenty feet wide and growing up a twelve feet wall, from whence it had claimed the support of the stem of a *Eucalyptus globulus*.

*Wistaria multijuga*, covering the front of the gardener's house, and across a pergola was a picture with its yard long racemes of white and lilac blossoms, whilst close to it was one of the commonest of all popular plants, “London Pride,” a dense mass thirty yards long by one wide, and a dense cloud of flowers two feet high.

*Veronica Hulkeana*, with its beautiful mauve-coloured flowers was good, both against a green-house wall and also in the rock garden; and not far away, but growing under much wetter conditions, a colony of *Primula pulverulenta* proclaimed itself one of the best of its family as a hardy bog subject.

*Pittosporum undulatum*, fourteen feet high, was a mass of dark chocolate-coloured, fragrant flowers.

*Crinodendron Hookeri* or, as it is now called, *Tricuspidaria hexapetala*, is represented by several fine specimens some eight feet high, and well covered with its bright-red, fruity looking blossoms.

A nice bush of *Rhododendron Pink Pearl* was proving its wonderful floriferous character by not having a single point which did not terminate in a truss of the loveliest pink.

Carpets of creeping *Phloxes*, *Lilacina*, starch blue; *Sprite*, bright pink with carmine eye, larger, freer, and better than *Vivid*; *Compacta*,

a pale pink which turns to deep rose as the flowers age; and *Seraph*, white with a blue eye, were the pick.

A crowd of the *Madeira Orchid* (*Orchis foliosa*), occupying several square yards, promised a powerful display in due course.

*Cotoneaster nummularia*, or *congesta*, forms a nice cushion covering a large stone some three feet across, whilst near by was a mass of *Arenaria montana*, a sheet of its pure white flowers crowned by a sward of the Cheddar Pink (*Dianthus cæsius*). These latter were growing on the summit of a high, flat-topped stone.

On the long wall which carries many nice things *Lonicera syringantha* was in full flower, shedding its delightful fragrance for yards around, and not far away *Fabiana imbricata*, which looks more like a Heath than a relation of the potato. *Ribes speciosum*, *Euonymus radicans* Silver Gem, occupying many square yards; *Salisburia adiantifolia* (what a charming wall shrub this interesting Conifer makes when neatly trained out!), and many other useful climbing and wall shrubs are found.

These are only a very small proportion of the many good and interesting subjects to be found in these charmingly situated and delightful gardens.

VISITOR.

## *Silene Hookeri*.

THIS beautiful *Silene* received an award of merit when shown by Messrs. T. Ware at the Royal Horticultural Society on June 4th. It was first discovered over forty years ago in the woods of the Wahlamet in Oregon, and collectors have gathered it in various parts of California. After a lapse of years this *Silene* is again coming into prominence, for it is well adapted to the rockery.

*Silene Hookeri* is quite unlike any other cultivated member of the genus, and is remarkable for the great size of the flower compared to the rest of the plant.

The whole plant is only a few inches high; the woody root-stock bears trailing branches and soft downy leaves, narrow and rather spoon-shaped. The flowers are a pleasing rosy-pink, and measure two inches across; each petal is deeply cleft, giving the flower quite a fringed appearance.

This Californian Alpine was also to be seen at the International Show, and was quite one of the most delightful Alpines exhibited.

## The Plant and Water.

By G. O. SHERRARD.

**W**ITHOUT water there can be no life. All living things, whether plants or animals, contain in their cells a certain amount of water, and if this be removed death ensues. In the case of plants the amount of water necessary to support life varies with the species of plant and with the state of growth or rest in which it happens to be. A lichen or moss growing on a rock requires very little water compared with a soft plant like rhubarb, and the quantity of water contained in a resting seed or spore is very small compared with that which the resultant plant will contain when in a state of growth. Water makes up about 50

per cent. of the weight of a woody stem, 70 per cent. to 80 per cent. of the weight of herbaceous plants, while in the case of succulent plants and fruits it amounts to as much as 85 per cent. to 95 per cent. of their total weight.

Seeing then that the body of the higher plants is composed so largely of water it must be of great physiological importance to them. If the growing stem of a herbaceous plant be cut and allowed to remain in the sun for a short time it will become limp and soft, and will no longer assume an upright position when held in the hand. When placed in water it again becomes rigid. Consequently the rigidity and firmness of non-woody plants depends on the water contained in the cells—in fact the cells of a growing

plant are distended with water just as a bicycle tyre is with air.

Water is also used directly by plants in the making of their food—starch, sugars, &c. In order to form 100 grammes of starch 55 grammes of water are necessary, and to make the same quantity of glucose 60 grammes of water must be used. Then when the food is made it has to be carried to the different parts of the plant, and it can only travel through the cells and vessels when dissolved in water.

No solid substance can enter a plant, consequently all the raw materials in the soil from which a plant forms its food must be taken up, dissolved in the soil water and carried to the leaves by the "transpiration" current. This flow of water from the roots to the leaves is of fundamental importance to the nutrition of the plant. The water, containing a



*Photo by*

SILENE HOOKERI

*[R. J. Mally]*

very small percentage of dissolved salts, enters by the root hairs or by the general surface of the root, and travels upwards through the vessels of the woody part of the stem, or in a herbaceous stem through the wood vessels of the vascular strands. Thence it passes into the veins of the leaf, and is evaporated or transpired away through the stomata or minute pores which are scattered in enormous numbers over the lower surfaces of the leaves. The salts dissolved in the water are left behind in the leaf, and, of course, the plant retains what water is necessary for food manufacture and for the turgidity of the cells. Since the soil water contains but a very weak solution of salts (phosphates, nitrates, and salts of

potash), it follows that the plant must pass a large amount of water through its body in order to build up its cells. A sunflower plant about 6 feet high will evaporate during a day about a quart of water, and it has been estimated that for every gramme of dry solid matter produced by a plant 250-400 grammes of water must be transpired away. Transpiration is increased by heat, by light, and by dryness and motion of the air. It is greater by day than by night. The stomata, or pores of the leaf, can regulate the transpiration of plants to a certain extent by closing automatically when the air is very dry and opening widely when it is moist; this is brought about by changes in the turgidity of the surrounding cells. These stomata also fulfil the purpose of the breathing pores, and permit the exchange of oxygen, nitrogen, and carbonic acid gas between the atmosphere and the interior of the leaf; the plant gets all its carbon in this way from the carbonic acid gas entering by the stomata. It has been estimated that a medium-sized cabbage leaf is provided with about eleven million stomata, while in the sunflower leaf they number about thirteen million.

Since water is such a vital necessity to the plant it follows that the cultivator must do all in his power to secure a sufficient supply for his crops. Deep cultivation and the addition of decayed organic matter will cause the soil to store more water; mulching or hoeing the surface will check the loss of water in dry weather. In the case of cuttings transpiration must be checked, for there are no roots to absorb water from the soil; by keeping the cuttings covered with a bell glass or frame, and shaded from the sun, transpiration is reduced to a minimum. Probably the correct watering of pot plants is one of the greatest tests of a cultivator; if he overwaters, his plants die of suffocation of the roots or sourness of the soil, if he underwaters they die of drought. It is only the man of experience that knows the happy mean.

## Experiments on the Pollination of our Hardy Fruits.

(Continued from p. 84.)

By CECIL H. HOOPER, M.R.A.C.

**APPLES.**—Out of 63 varieties of apples tried, on which unopened blossoms were bagged and left untouched, only Irish Peach matured its fruit, and that was very good; of those bagged and pollinated with their own pollen by brush or anthers, the following 11 varieties set and matured their fruit:—Irish Peach, White Transparent, Newton Wonder, Ecklinville Seedling, Summer Golden Pippin, Baumann's Red Winter Reinette, Peasgood's Nonsuch, Christmas Pearmain, King of the Pippins (damaged by sawfly, eventually fell), and I believe American Mother and James Grieve, but am not certain of the two latter. Whereas in nearly all

the crosses made good fruits have resulted: out of 64 crosses some 48 were successful. Among the best may be mentioned Brabant Bellefleur, with Beauty of Bath pollen; Mr. Gladstone with Beauty of Bath; Alfriston with Beauty of Bath; Christmas Pearmain with Cox's Pomona; Mère de Menage with Sandringham and Hornmead Pearmain; Allington Pippin with Summer Golden Pippin; High Cannons with Grenadier; The Queen with Baumann's Red Winter Reinette; Lane's Prince Albert with The Queen; Cellini with Graham's Royal Jubilee. These crosses were made by bagging unopened buds and afterwards pollinating, but without taking out the stamens from the flowers; the pollination was done either by anthers held by forceps or by camel's hair brush, the brush being dipped in methylated spirits each time before using again, allowing the brush to dry before use.

In the case of Cox's Orange Pippin tree nine bunches of unopened flowers had their stamens taken out with forceps, and the stigmas were then pollinated by a camel's hair brush or by the anthers with the pollen of nine different varieties of apple and then tied up in muslin or paper bags; this was to try to find out which pollens would give the best results. Eight of these set fruit—namely, with High Cannons, Bramley's Seedling, Grenadier, Lady Henneker, Golden Spire, Duchess's Favourite, The Queen, and with its own pollen; only with Peasgood's Nonsuch did fruit not set. However, these fruits gradually fell, and only two matured—namely, those pollinated with High Cannons and Bramley's Seedling, the latter being one of the best fruits on the tree. In this case it was probably chance that the Peasgood pollen did not set fruit, as several good apples, such as "Charles Ross" and "Rival," have been raised from this cross.

Cox's Orange is found by experimenters to be self-sterile—i.e., does not mature its fruit when pollinated with its own pollen—it is, therefore, important to find a good pollinizer to intermix where it is planted. Mr. C. Martin, Manager of the Toddington Orchard Company, told me his best fruit of Cox's Orange Pippin came from a plantation interplanted with Duchess's Favourite; one grower told me he found Worcester Pearmain a good kind to plant amongst Cox.

In reference to this subject Mr. John Smith, the Horticultural Instructor for Durham, writing in the *Gardeners' Chronicle* on October 28th, 1911, page 310, "Experiments in the Pollination and Setting of Fruit," recommends from actual experience planting a crab apple (such as John Downie, Dartmouth, or Siberian) to every twelve Cox's Orange, as he finds the pollen of crab apples very potent pollen. At the Government School of Gardening at Buda-Pesth, with the object of pollination, the different kinds of apples were divided into families and planted in groups, thus Codlins, Pippins, Pearmain, Nonpareils, Russets, Reinettes, Pomerays, Costards and Crabs; from experience this is considered a good system. Apparently it is an accepted fact that cultivated apple trees set their fruit better in the neighbourhood of a crab tree. I should like here to record the 53 varieties of apples that in 1911 did not mature fruit with me with their own pollen, but before stating that a variety is self-sterile duplicate trials may be needed to be made for more than one season and in several places:—Adam's Pearmain, Alfriston, Allington Pippin, Annie Elizabeth, Astrachan, Beauty of Bath, Beauty of Kent, Belle de Pontoise, Benn's Red, Bismarck, Blenheim Orange, Brabant Belle Fleur, Cellini, Cockle Pippin, Cox's Orange Pippin, Cox's Pomona, Duchess's Favourite, Egremont Russett, Fearn's Pippin, Gladstone, Golden Noble, Golden Spire, Grenadier, Hambling's Seedling, High Cannons, Hoary Morning, Hollandbury, Hornmead's Pearmain, King of Tompkin's County, Lady Henneker, Lady Sudeley, Lane's Prince Albert, Loddington, Lord Derby? Lord Suffield, Mère de Menage, Old Hawthorn-



den, Old Nonpareil, The Queen (Saltmarsh's), Ribston Pippin, Rival, Royal Jubilee (Graham's), Royal Snow, Sandringham, Seaton House, Stirling Castle, Striped Beeling, Sturmer Pippin, Waltham Abbey Seedling, Warner's King, Washington, William's Favourite, and Worcester Pearmain. Mr. F. Chittenden, F.L.S., who has worked on the pollination of apples and pears probably more than any one else in this country, finds Gladstone, Stirling Castle, King of the Pippins, Early Victoria, Lord Derby, and Schoolmaster are self-fertile, and the following self-sterile:—Beauty of Kent, Bismarck, Bramley's Seedling, Cellini, Cox's Orange, Claygate Pearmain, Ecklinville, Lady Sudeley, Lane's Prince Albert, Mannington Pearmain, Newton Wonder, Northern Greening, Peasgood Nonsuch, Royal Jubilee, Sandringham, Sturmer Pippin, and Wellington; in the trials of Mr. W. Backhouse, Lord Derby proved self-fertile. In the trials of Messrs. Lewis and Vincent in Oregon, Keswick Codlin, Duchess of Oldenburgh and Washington were self-fertile. From three years' observation of the order of flowering of apples I place the popular market varieties thus:—

*Early Flowering.*—Bismarck, Golden Spire, Baumann's Red Winter Reinette, Stirling Castle, and Bramley.

*Mid Flowering.*—Duchess's Favourite, Gladstone, Cox's Orange Pippin, Beauty of Bath, Worcester Pearmain, Lane's Prince Albert, and King of the Pippins.

*Late Flowering.*—Newton Wonder, Mère de Menage, Lord Derby, Gascoyne's Scarlet, Wellington, Blenheim Orange, Royal Jubilee.

Apples are in flower about seventeen days and in full bloom on the seventh day.

Seeing that out of, say, ten varieties of apples, about eight appear to be self-sterile, it would be advisable in planting to place varieties that flower at the same time in proximity; thus, preferably to plant early flowering kinds with early or mid-flowering varieties, as it is possible that an early flowering kind may have dropped its petals before a late flowering kind commences to flower. The various American authorities recommend planting an alternate variety every two or three rows in apples, pears, and plums.

**PEARS.**—Whilst pears were in flower this spring, although the weather was sunny and warm, the wind during most of the time was boisterous and too rough for hive and bumble bees to work in, which accounts, I think, for rather a short crop of pears this year, considering there were no frosts whilst they were in flower. Out of 30 varieties of pears on which I placed bags and left the blossoms untouched, fruit only set on Duchesse d'Angoulême, Colmar d'été, General Todleben, Dr.

Jules Guyot, Josephine de Malines and Durondeau, but all of these fruits gradually fell, and none matured. Of those bagged and pollinated with pollen of the same variety, about the same number proportionately set fruit, but only two varieties matured fruit—namely, Duchesse d'Angoulême, and Colmar d'été. I thought to have counted General Todleben also as self-fertile, but the fruit withered since July 7th, and afterwards fell.

I did not make many cross-pollinations with pears, but obtained good results with Williams' Bon Chrétien with pollen of Duchesse d'Angoulême, Conference with the pollen of General Todleben and *vice-versa*; in the case of the Vicar of Winkfield I pollinated four buds with pollen of Winter Crisanne, and had two fine pears as the result, the best on the tree.

The pears experimented upon included Pitmaston Duchess, Beurré Superfin, Souvenir du Congrès, Louise Bonne de Jersey, Marie Louise, St. Luke, Clapp's Favourite, Uvdale's St. Germain, Citron des Carmes, Catillac, Beurré Diel, Vicar of Winkfield, Duchesse d'Angoulême, Colmar d'été, Williams' Bon Chrétien and Conference.

Mr. F. Chittenden, out of sixteen varieties of pears tried, only found two set with their own pollen—viz., Durondeau and Conference. In America, Duchesse d'Angoulême, Beurré Bosc, Beurré Diel, Doyenné d'Alençon, White Doyenné and Flemish Beauty are found to be more or less self-fertile; and White Doyenné and Clapp's Favourite have proved to be good pollenizers for Williams'

Bon Chrétien. The different varieties of pears blossom more nearly together than apples. The following gives some idea of their order of blossoming:—

*Early Flowering.*—Beurré Clairgeau, Duchesse d'Angoulême, Beurré Diel, Marguerite Marillat, Jargonelle, Williams' Bon Chrétien.

*Mid-flowering.*—Beurré Hardy, Doyenné Boussock, Beurré Giffard, Catillac, Pitmaston Duchess, Dr. Jules Guyot.

*Late Flowering.*—Clapp's Favourite, Triomphe de Vienne, Souvenir du Congrès, Doyenné du Commerce, Marie Louise d'Uelle, Durondeau.

Pears appear to be in flower eighteen days being in full bloom on the 8th.

Beurré Clairgeau is a prolific blossomer and might be tried as a pollenizer for early varieties, and Clapp's Favourite would probably prove a good pollenizer for late flowering kinds of pear.

**POLLENIZING INSECTS.**—From observations this year in gardens, in which bees are kept or are within 200 yards, I estimate that 80% of the pollination of our hardy fruits is done by the hive bee, 15% by the various bumble bees, and the remaining 5% by other wild bees, with a very small assistance by flies, midges and beetles.



MR. J. MCCARTHY'S ORCHARD AT FAIRFIELD, ENNISCORTHY.

## July in the Alpine Garden.

By REGINALD A. MALBY.

**J**ULY, at least with me, is pre-eminently the month of the Campanulas, and their white, through blue to rich dark purple flowers make the garden gay at this time, when the chief flush of the Alpine flora is over. Fortunately their variety is almost endless, and one may have plants varying in magnitude—from the dwarf prostrate *C. cenisia* and *C. Zoysii*, growing on the moraine, with their comparatively large terminal flowers, only an inch or so high—through the rather larger and especially attractive *C. pulla* (although this is often earlier) to *C. pusilla* and *C. pusilla var. alba*, which romps about in every odd crack in either shade or sun, and garlands those wee vertical crevices between the rocks which will become evident from time to time, even in the most carefully-built rock garden.

Then, too, in full sun, and nestled in between some protecting rocks which will moderate the excessive wet in our winters, and backed by a deep root run of very gritty soil, hummocks of *C. garganica* blaze forth in all their glory, and are particularly attractive owing to their neatness of habit and brightness of colouring—the variety *hirsuta* is pretty, but, to me, not so pleasing, and somewhat less vigorous, possibly owing to the downy character of its foliage.

Near by we have clumps of *Campanula pulloides* and *G. F. Wilson*, both growing some four or six inches high, and one mass of purple bells. These two are very effective in the rich splash of colour they give us at this time, and are extremely easy to grow in moderately light soil, consisting of loam, sand, and leaf-mould in about equal proportions.

On shoulders in the rock garden trail, in a charmingly natural manner, masses of *C. isophylla*, both white and blue, hailing from Italy, though quite hardy if in a well drained position, either in shade or sun, and very pretty their wide open shallow bells are as they mantle the outspread cushion of leaves.

I find slugs are especially fond of the flowers of this

plant, and a sharp watch should be kept at night, when large numbers assemble for the feast, much to the detriment of the patch the following day.

This *Campanula* is the familiar one of the cottage windows, and is often used for basket work by the florist. The variety *Mayi*, with shaggy (and often variegated) foliage and deeper blue flowers, is also very attractive, though perhaps a little less vigorous!

In clefts between rocks in full sunshine, and planted so as to make a vigorous patch of colour, that lovely *Campanula muralis* (labouring under the terrible name of *portenschlagiana*) claims our attention.

This is a most beautiful plant, and an easily grown one in free open soil; it flowers best with me, however, in full sun. The individual blossoms are very delicately formed, and are equally lovely from a distance or upon close inspection.

Of larger-flowered varieties, *C. carpatia* and *turbinata* make a splendid feast of colour, ranging from white to deep purple, are easily grown, and propagated rapidly by breaking up the clump in early spring.

By the path edge, where rarer and more easily damaged plants might be hurt, *C. rotundifolia*, the



Photo by

R. A. Malby

CAMPANULA GARGANICA.

common Hairbell, grows, sending up its myriad thread-like stems, each supporting lovely bell flowers and remaining in blossom for a considerable time.

The white form of the common Hairbell is very pretty, and another charming variation is *C. Hostii pallida*.

One other *Campanula* I must refer to—viz., *C. barbata*—whose shaggy pale-blue flowers are most dainty as they hang, three or four on a stem, which rises from a rosette of hairy leaves. With me this plant usually dies out after two or three years, and is best renewed by seedlings, which are easily raised.

With a large number of these bell flowers, especially *C. pusilla*, *pulloides*, *G. F. Wilson*, *carpatia*, and *isophylla*, I plant them both in full sun and partial shade, thus securing a prolonged season of flowering, since those in the shade are just coming into flower as the fully exposed ones are passing, thus increasing the value of this already indispensable and most decorative family.



## Tomato Culture for Pleasure and Profit.

By W. A. MAXWELL, Gardener to Captain A. H. Burdett, Coolfin, Banagher, King's County.

**F**IFTY years ago tomatoes were practically unknown, to-day the varieties in cultivation run into three figures; scarcely any plant of our day has grown so rapidly in public favour or added so much value to the crops of the garden as this plant has done. The plants are easily grown under glass; with a little extra care they can also be grown in a frame, and some varieties do really well in the open air planted on a sunny border.

To amateurs and small growers the soil difficulty is often a serious one, as not every one wishing to grow this fruit can procure good turfy loam, which is almost essential.

Seed should be sown according to the time plants are required for planting out. Sow the seeds thinly in shallow boxes or pans in a compost of sifted loam and leaf-mould in equal proportions; cover slightly, pressing the soil gently over the seed. The seedlings show through in eight or ten days if kept in a temperature of from 55° to 60°. After the seedlings are about an inch high plant into boxes (composed of similar soil) two inches or so apart, and place on a shelf near to the glass so as to ensure sturdy growth. In about three weeks or a month they will be ready to plant, either into the border or pots in which they are to fruit; if grown in pots, use eight to ten-inch pots, and make up the following compost:—To one barrowful of loam add half a gallon of bone-meal, three gallons of old lime rubble, adding some well-rotted manure, mixing the whole well together: fill the pots three parts full only to leave room for future top-dressings. Press the soil firmly round and over the roots in potting; stake the plants and place in position where they are to fruit. When grown in borders they should be planted at least eighteen inches apart, and the same distance between the rows. The tomato cannot be successfully grown without fresh

air, which can be admitted carefully into the greenhouse, so that the temperature may not be lowered unduly, as tomatoes greatly dislike chills or too cold an atmosphere.

Watering should be given plentifully when once the plants are growing; pinch off all side shoots which show. After the plants begin to set their fruit, occasional waterings of liquid manure may be given, increasing in strength as the fruit increases in size. After the plants carry a goodly number of fruits top dressing may be done whether in pots or in a border, pressing the soil firmly round the neck of the plant, using the same compost as when planting. During summer no great difficulty need be experienced in setting the fruit providing the house is kept fairly warm and

a free circulation of air secured when the plants are in bloom; in winter and spring the flowers should be fertilised by hand.

The names of varieties for different aspects can be obtained by applying to the Editor, stating whether to be grown in pots or borders, and aspect of house.



A WELL-GROWN PLANT OF BALL'S SUPERLATIVE TOMATO.

THE Twenty-Second Annual Report of the Missouri Botani-

cal Garden" is a substantial and well-illustrated volume, points which seem to indicate that expense and care are not spared in America on the official work. David Griffiths describes many new species of *Opuntias* in his paper on "Illustrated Studies in the genus *Opuntia*"; papers on "*Cratægus* in Missouri," by Prof. A. S. Sargent; and on "*Yuccas* and the *Agaves* of Lower California," by Wm. Trelease, comprise an interesting botanical volume. In the notes upon *Agave Couesii*, Mr. Trelease says:—"This interesting species, long overlooked, should prove to be one of the hardest in cultivation, since it withers at a low temperature often below 50° F. Popularly known as the "Century Plant," *Agave* is essentially a desert genus of plants centering in the dry tableland of Mexico. Some forms occur through the entire chain of the West Indian Islands, and outlying representatives are found as far south as the Andean region, and as far north as Utah in the United States.



## Roses.

By O'DONEL BROWNE, M.D.



**F**LOWERS in July should be very good this year, as the cold weather during June has for a time stopped them from being rushed open, as they were during early part of June. It was a terrible time for rushing during the end of May and early June; my poor Roses were forced to open, and the flowers had not time to come to perfection as to size.

Just as they were opening a heavy shower came and gummed up all my fuller-formed varieties, such as K. A. Victoria and Mme. Jules Gravereaux, which spoilt the whole crop. If we have good, warm, cloudy weather in July we should have a fine show of Hybrid Perpetuals, and the dark reds should be good. What has been a great pleasure this year is to see the great and abnormally fine growth on the Teas. My plants are under a wall facing south, and this wall saved my plants from all the east wind which prevailed during the young, growing days, with the result that I have lovely growth. Some varieties, such as Anna Olivier, W. R. Smith (very fine), the Cochetts, and Mme. Constant Soupert, have been out for

some time. During July we should not get lazy and be content with cutting our flowers. Give your beds a slight dressing of some artificial food; cut away all over-blown and wasted flowers, and keep the hoe going to promote the secondary growths for August. Do not neglect to search for mildew. It is first noticed as a curl in the leaves, which in a few days begins to turn whitish. Get a good syringe with a fine rose (the Abol syringe with the bent connection and finest rose is the best I have tried), and spray the undersides of *all* rose foliage every third day with either Mo-Effie or cyllin wash. The former is ready prepared and sold in all seed houses, the latter you make at home. Buy, say, half a pound of cyllin soft soap and a small bottle of pure cyllin at the chemist's. To each gallon of soft water add one ounce of pure soft soap (having previously melted the soap in warm water), and to the solution of soft soap and water add one teaspoonful of the cyllin. This makes a white solution commonly known as Jeye's disinfectant. At the Rose Conference in London at end of last year Mr. Pemberton strongly advised Calvert's soft soap (carbolic) to be used. Take one and a half pounds of this soap, and boil it in seven and a half quarts of water. Use as a spray one part of above to six parts of soft water. The water should be soft or pond water. Spray whenever you see any signs of mildew, and do not rest easy during the growing season. The under sides of the foliage is the place to get at, it's no use going at the upper surfaces of the leaves. Another word and I am done for the present. When cutting your flowers for decoration, do not be niggardly, but cut plenty of stalk to each flower, for this promotes your secondary growths from the base.

## Rose Budding.

**J**ULY is generally the month for this operation, but it is not so much the time of year that needs consideration as catching both stock and Rose-bud in the most suitable condition. In the case, too, of several new and scarce varieties, we are compelled to bud at the time such buds are available, and no set date can be chosen. I have frequently budded from mid-June until early in September, but the latter date does not always allow the bud to set firmly enough to pass through the winter unless a rather extended growing season follows. I do not care for coarse-growing stocks. When rampant, there appears to be so much sap that the bud is flooded, and for this reason I do not believe in manuring or forcing the stocks as some do. A strong-growing and rapidly-swelling stock also has a tendency to grow over the bud and smother it, the Rose-bud itself scarcely growing after insertion, and never at a correspondingly quick rate. Medium-strength stocks also set earlier and firmer, and are better able to pass through the winter. A little observation will show that a seedling Briar stock that was little larger than an average knitting needle when first planted will swell to a circumference of two and a half inches upon high-cultivated soil, and this is by no means so good as when the stock grows less and makes firmer wood.

Do not attempt any budding until the bark lifts easily, and be sure the bud itself is in a suitable condition. The stock will be available much longer than the Rosebud, and we must catch the latter as opportunity offers, more especially in the case of new varieties.

On no account should there be any bruising or forcing when raising the bark of the stock to make room for the Rose-bud, nor should the bud itself need any force to remove the small portion of wood covering the seat of the eye. It is a great factor towards success when we can do the work without undue disturbance of the sap, both upon the Rose-bud and the stock. Quickness is also advisable, never allowing the sap to dry up by exposure. Nor should there be any delay in tying in the bud. The average amateur does not tie in firmly enough, nor take enough care to keep the tie close to the back of the eye or bud, and so secure its being close down upon the wood of the stock. At the same time we must not bruise by too close tying. Never use an eye that does not show its seat prominently. When the Rose-bud is either too old or too young you will find a hollow instead of a seat or heel, and without the latter very few buds will live. Always bud dwarfs as low down upon the roots as possible, and the shoulders of standard Briars as near to the main stem as can be done. I am a strong believer in the selection of buds, and would always use from healthy plants, making even a further selection of buds from beneath a well-finished or highly-coloured blossom. Like has a tendency to reproduce itself in all phases of propagation, and I feel we do not sufficiently recognise this when budding Roses. Should the stocks not lift readily a free watering often helps them if done a few days before the operation.—P. U., in *Gardening Illustrated*.

## Hints to Amateurs.

By R. M. POLLOCK.

**RISES** (German flags).—Where these have gone out of flower they may be transplanted and thinned where necessary. When this is done early the plants can get established before winter sets in. There are of course a very large number to select from, and beautiful though they are, it would be a mistake to fill up a small garden with any but those most appreciated by the owners, as they take up a great deal of space and are only in flower for a comparatively short time. A visit to some collection is always advisable, where the most pleasing can be noted. No one need hesitate to throw out one clump and replace with another, as they are quick growers and very soon fill their allotted space. The following are a few good distinct colours:—Yellow—Mrs. Neubronner, variegata aurea, Maori King, and flavescent. White—Florentina and Mrs. H. Darwin. Lavender—Tine and pallida. These remarks *re* selection apply to all classes of plants where there are a large number of named varieties, such as Roses, Carnations, indoor and outdoor Chrysanthemums, Dahlias, and others.

**BULBS.**—Where the foliage has turned yellow the bulbs may be lifted. Do this if possible on a dry day, using a fork and not a spade. Shake the earth from them and place under shelter either in pots, boxes, or spread upon shelves. There are sure to be wet days when they can be gone over, cleaned, and where necessary divided. Some varieties will be found to have increased much more than others. It is of course unnecessary in an ordinary garden to lift the bulbs of Narcissus and Tulips and other spring bulbs every year, and if annuals are planted close to where the bulbs were, they will cover the bare spaces and still not injure the bulbs. The grass where Daffodils are planted can now be cut, and so give lawns a tidy appearance.

**HERBACEOUS BORDERS.**—During the summer notes should be carefully made about any alterations in the borders, where colours are wanted, where they clash, which is a very usual occurrence, where dwarf plants are being smothered by taller and coarser growers, what plants do better in sun or shade, and also plants that are not worth their place. It is only by personal observation of this sort, and noting alterations at the time of flowering, that a border can be kept full and still not overcrowded, and where every plant gets its full share of light and space, and gives the grower in return strong healthy growth and lots of flower.

Attend carefully to staking. Heavy rains and wind will put great strain on the ties and stakes. Use the hoe constantly and keep everything clean and tidy. Water thoroughly during dry weather, and alternate this with liquid manure on such plants as Sweet Peas, Roses, Carnations, Autumn Chrysanthemums, Dahlias, &c. Delphiniums will usually throw a second flowering growth if cut down as soon as the first bloom is over.

**PINKS AND CARNATIONS.**—Cuttings of the former may be taken and inserted in a shady corner. Carnations may be propagated also in the same way, taking the cuttings from the plants when they are in full flower. When making cuttings it should be remembered that it is at the joints (nodes) or where the leaves are that

roots are made. With a clean sharp knife remove all the lower leaves for about half the length of the cutting, then cut it straight across just below a joint, then with a dibble make a hole, insert the cutting and make the soil firm round it. See that the cutting reaches the bottom of the hole, otherwise what is known as "hanging" will take place, as the cutting is only hanging in the hole. If the ground is dry, water it a short while before proceeding to work, as with dry soil it is difficult to firm the cutting. Wallflowers, Foxgloves, Canterbury Bells, and other biennials sown in May and June may be pricked out about six inches apart into nursery beds prior to transplanting in autumn to their permanent flowering quarters. Cut over Violas that are beginning to look shabby, they will very soon be in full flower again.

If not already done, sow Forget-me-nots and East Lothian Stocks for spring flowering. Sow in pans or boxes and put in a cold frame.

**GREENHOUSE.**—Prick off Primulas and Cinerarias from seed pans into their first pots. Water carefully from this onwards. Start another batch of Zonal Pelargoniums. For directions see April number, which may be followed.

Roses may be budded on a moist day, and for full directions see Rose Notes in this number. Cuttings may also be inserted under a wall. Take the ripened wood of this year's growth, pull the shoot off, bringing with it a little of the old wood which is known as a "heel," and cuttings with heels seldom fail. Always use a clean sharp knife.

Pick Sweet Peas regularly. If you have more than you want, you can do good to some one by letting them have the flowers, and your plants will be the better without them.

**PACKING FLOWERS.**—Never pack when the flowers themselves are wet. Soak the stems in water for an hour or so before packing. Use shallow boxes, and only put two layers in each box. If more have to go, use another box, and tie both together and post as one. If the boxes are not quite full, use crumpled tissue paper to fill gaps. Never use wet cotton wool. If it once gets on the blooms it is impossible to remove it. When dry, cotton wool absorbs any moisture there may be in the flowers, paper is far better. Never pack fully open flowers, and where possible pick the flowers early in the day. If in doubt how things travel, pack and post a box to yourself, and note how they arrive.



## A DELPHINIUM TRIAL AT WISLEY.

THE Floral Committee of the R.H.S. confirmed the Awards of Merit given to the following varieties of Delphinium, after trial at Wisley:—Delphinium Darius, Cymbeline, Jessica, Lorenzo; these varieties were from Messrs. Geo. Bunyard & Co., Maidstone. Mrs. James Kelway, Smoke of War, Dr. Lodwidge; these three varieties were from Messrs. Kelway & Son, Langport. Royal Standard, Mme. E. Geny, J. S. Sargent, Colonel Crabbe, Dr. Bergman; the foregoing were from Messrs. Forbes, Ltd., Hawick. Mr. J. S. Brunton, from Mr. B. Ruys, Dedemsvaart. Lizzie van Veen, from Mr. J. Box, Lindfield.



## Notes on some new Clematis.

By J. W. BESANT.

SINCE the introduction of *C. montana rubens* a few years ago, several other new Clematises have found their way into British and Irish gardens.

*C. Armandi* (Bot. Mag. 7897).—This was introduced by Messrs. James Veitch & Son from China, and is described by botanists as a form of *C. meyenianum*, which is the name under which it appears in the Botanical Magazine. It bears dark-green, rather leathery leaves, and pure white flowers produced in early spring. A fast grower during summer at Glasnevin, it is nevertheless frequently cut back by frost during winter. Perhaps after a few years under cultivation it may become hardier, but in any case it would be quite worth cultivating as a greenhouse or conservatory climber.

*C. nutans*.—This also has been recently introduced from China, and is in its way unique. The pale yellow, nodding, bell-shaped flowers are produced abundantly in July and August, a time when they are very welcome among climbing plants. It is apparently quite hardy, and grows fast, quickly covering a large space. It may be used on pergolas, trellis-work or trained on poles to form a pyramidal specimen.

*C. Pratti*.—The plant at present in cultivation under this name is apparently only a form or variety of *C. montana*, very near to *C. montana rubens*. It blossoms about the same time as the latter variety, but the flowers are paler, while the leaves, though ultimately closely resembling *C. montana rubens*, are, when quite young, more distinctly marked with white lines on the segments. The true *C. Pratii* is said to have yellow flowers, and is probably not at present in cultivation.

*C. splendens* was introduced by Messrs. Rees, Ltd., of Liverpool, and promises to be one of the most interesting of recent novelties in Clematises. It also comes from China, and bears fragrant yellow flowers in the way of *C. orientalis tangutica*. The leaves are

aptly described as "currant-like." Probably when these yellow-flowered species become better known they may prove useful for hybridizing.

*C. montana Wilsoni* is a large-flowered form, blooming in late summer as a rule, but this year it is carrying abundance of flowers in June. Flowering so much later than other forms of *C. montana*, it will be found useful in many ways for keeping up a display on walls, arches, pillars, &c.

*C. repens*.—This has been described as "similar to *C. montana*, but with larger flowers produced in August." So far as the plants at Glasnevin show,

it is indistinguishable from *C. montana Wilsoni*, and both, as noted above, are flowering freely in June.

**SUB-SHRUBBY CLEMATISES.**—There are several low growing bushy varieties of Clematis, *heracleifolia*, which are eminently suitable for beds or groups in the front of shrubberies, and which lend themselves admirably for use on large rockeries.

Although they frequently behave very much like the herbaceous species, dying back considerably each winter, yet the lower part of the shoots is more woody, and the young growths frequently break much higher up than is the case with the strictly herbaceous kinds. The pruning should consist of cutting off all dead shoots in spring.

*C. heracleifolia* is quite a shrubby species, hailing from China. The large trifoliate leaves are handsome, and the clusters of lilac-blue flowers which are freely produced render a well grown group highly ornamental.

*C. heracleifolia* var. *dauidiana* is a fine blue-flowered variety, bearing large rounded leaflets on erect half-woody branches.

*C. h. Stans* is a dwarf form from Japan. It is not a showy variety, the flowers being rather colourless, densely clothed on the outer surface with a whitish down. Owing to its dwarf habit, it will be found useful for the rockery, and lends variety to the shrub border.

**HERBACEOUS CLEMATISES.**—Under this heading come a number of species and varieties which die down



Photo by]

CLEMATIS MONTANA RUBENS.

[C. F. B.



to the ground each winter. Some of them make considerable growth during summer, and require supports to display their full beauty. They may be successfully used in the herbaceous border or in shrubberies among the less strong-growing shrubs.

*Clematis coccinea*, from Texas, is one of the most striking species in the whole genus. The scarlet bell-shaped flowers are very ornamental, and quite distinct from any other species or variety. It will grow six or eight feet high during summer, and may be used as a wall plant in a sunny, fairly-sheltered position. In some districts it does not prove altogether hardy, but if some degree of shelter is provided when choosing a site, it may be depended on to appear annually.

*C. Douglasii*, a native of the Rocky Mountains, is a useful dwarf species, growing only a foot or so high, and bearing deep purple flowers, lighter on the outside of the segments. It is useful for the front of the border, and can be effectively used on the rockery.

*C. Fremonti*, native of Kansas and Missouri, is another very dwarf species in the way of *Douglasii*, and producing pendent purple flowers.

*C. integrifolia* from S. Europe is much taller, reaching a height of 3 ft. and over. It is a useful plant for the herbaceous border, or it may be planted among rocks or roots and allowed to take care of itself. The flowers are quite showy, of a fine violet-blue colour.

*C. integrifolia Durandii* is a superior variety of stronger growth, flowering profusely from early summer onwards for several months. It is an excellent plant for trellis work, pillars, etc., creating a fine effect when allowed plenty of space to develop. It is probably of hybrid origin.

*C. recta*, like the last species, is also from South Europe, and also grows about 3 ft. high. The flowers, however, are smaller and white, a rare colour among the species of *Clematis*. It can be recommended for use in the same way as *C. integrifolia*. There is a good double white variety, which for decorative purposes is superior to the type.

**CLEMATIS COCCINEA HYBRIDS.** The unique colour of *C. coccinea* has induced hybridists to cross this species with some other kinds, and the result is a series of very beautiful hybrids. The wonderful colour of *C. coccinea* is evident in all the hybrids, while a robustness of constitution has been obtained, greatly enhancing their value. At Glasnevin several of these hybrids have flourished for some years much better than most of the older hybrids of *C. patens* and *C. florida*.

Although practically herbaceous, flowers ten feet or more long are produced by the end of June, and these bear flowers with remarkable freedom.

The following are representative of the kinds at present in commerce:—*C. Admiration*, salmon, edged violet, the reverse of the segments white; *C. Countess of Onslow*, clear violet-purple; *C. Duchess of Albany*, rose coloured; *C. Duchess of York*, rosy pink; *C. Etoile Rose*, carmine-red; *C. Grace Darling*, rosy carmine; *C. Sir Trevor Lawrence*, bright crimson. *C. Clocheton* is a hybrid between *C. coccinea* and *C. integrifolia*, it bears long tubular flowers of a reddish-violet colour.

## "The Story of My Rock Garden."

By R. A. MALBY.

THIS book is written from the experiences of an enthusiastic amateur who six or seven years ago acquired an ordinary villa garden within eight miles of the centre of London. Alpines are naturally accustomed and enjoy the purest of mountain air, and one would think a London fog and a town atmosphere would be fatal to many of them. It is really wonderful what a good collection of Alpine plants Mr. Malby grows in his villa garden, and how happy many of them appear to be, especially those with smooth leaves, for the rains soon cleanse such leaves of all injurious products left by the fogs and deposited by smoke. If one has some time, taste and enthusiasm for gardening it is surprising what can be done with even a small garden. The author seems to have started with these as his assets, but with very scant building material—in fact, owing to the great difficulty in getting suitable stone, concrete lumps from the foundation of the London roads were used, and these when coloured have much of the appearance of real stone. Of course good stone should be used to build a rockery whenever it can be procured, but it is not an absolute necessity, as Mr. Malby has shown by his beautiful little garden. In one of the opening chapters the planning and building of the garden is described, and how a small pool and bog-bed were made, always keeping in mind the comfort of the subsequent occupants. Other chapters deal with the moraine, planting and propagating, and towards the end of the book is a description of the plants in the garden, given in the order of flowering time. The book finishes with lists of plants for special positions in the rock garden. The book is one we can recommend to lovers of Alpines, and should be especially useful to beginners. It is well printed and is illustrated by photographic reproductions by the author. The illustrations are particularly good, for the author has the happy knack of making a good picture—showing a plant's characteristics as in real life.



**A POPULAR DICTIONARY OF BOTANICAL NAMES AND TERMS.** By G. F. ZIMMER, F.Z.S. (Published by G. Rutledge & Sons, Ltd., London).—Except to the linguist many of the botanical terms convey very little meaning, so this little dictionary is intended for the use of lovers and students of plant life in the garden and in the country. For nature study this little book will be a help in the translation of botanical names, for the English equivalents may be found without difficulty.

The gardener nowadays has so many plant names to remember that he will find a dictionary of this kind very serviceable, for when one knows the meaning of a plant name it is far easier to remember.

In some cases a plant receives its name from some peculiar characteristic it possesses, and the meaning explains this and adds interest—it draws one's attention to some point which we might otherwise pass without noticing.

For instance, how few gardeners have noticed the peculiar twist of the corolla tube in the *Streptosolen*, yet the name only means twisted tube.

## The Education of a Gardener.\*

**M**R. W. HALE, A.L.S., read a paper on this subject. He stated that our present system was more or less a system of "drift." That such a system—or rather want of system—had produced many excellent gardeners was freely acknowledged, and was clearly shown in the magnificent exhibition; and when one pondered over the training these men had received, the thought naturally arose, how were we to improve upon the methods employed?

The work of a gardener covered such a number of different branches that the education which a gardener should receive must of necessity be a subject upon which there were many diverse opinions. There could, however, be no two opinions but that the boy who wished to make gardening his life's work should receive while at school as full a general education as the circumstances allowed; and if it were possible for him to continue his studies up to the age of sixteen or seventeen years at a good secondary school, where he would receive an additional training in those sciences which would ultimately have a direct bearing upon his profession, such as geology, botany, chemistry, and land surveying, he would be possessed of an asset which would undoubtedly be of value to him in his future work.

Two years spent in acquiring the sound elementary details of his work would be ample to fit an intelligent and capable boy for the more important duties of a journeyman, and he must then realise that the future success or failure of his life as a gardener would largely depend upon himself, in the use he made of the many and varied opportunities of acquiring knowledge which occurred in his daily work. Neither should he forget to use every endeavour to further improve his general knowledge of those subjects which have a direct bearing upon his profession, since it is at this period of his life that his mind is most receptive to new facts and ideas, and his memory most retentive. The young journeyman should never forget that the cardinal point in his early training must be centred upon making himself proficient in the actual manual part of his work. Other subjects should be studied in the way of "intellectual amusement" rather than as things which must be acquired at this stage. Further pursuit of these subjects should be reserved for the later stages of his training, when he would be likely to have a clearer idea of what he desired to do.

The young gardener should acquire early the habit of observation of the objects of his daily work; and having observed, he should try and discover for himself the reasons for what he has seen.

His watchword must always be, "Keep your eyes open to things which want attention," and never do things in a mechanical manner. He laboured this point a little because, having had a fairly wide experience of men, he knew only too well how common it was for them to get into a mechanical way of doing work. They would go through a house of plants for watering, and never see the plant which needed watering most; or they failed to notice the first sign of distress from

insect pests, such as thrips and red spider, until a great deal of damage had been done.

If the journeyman could spend part of his training in a good Continental nursery or public garden, he would be still further equipped, as here, besides his purely horticultural training, he would also have the advantage of acquiring a knowledge of the language of the country, which would be of much value to him in after years.

He ventured to suggest that this was a subject that conference might well consider, and determine whether some sort of organised exchange system between young gardeners of this country and Continental countries could not be instituted, on somewhat similar lines to those which at present existed for elementary school teachers between this country and France.

What many of them would like to see grow out of this conference was some definite co-ordinated system of educational teaching designed for the man who was making gardening his profession. The system should ensure that the young gardener would finally be able to pass through a period of training in the higher branches of his profession, so as to be able to compete more successfully with the purely college-trained theory men, who, it had to be admitted, were often preferred for positions before the purely practical men because of their supposed superior scientific equipment.

Some system of training should be organised so as to make it possible that a thorough blending of the two types would result, and then horticulture would stand to gain untold advantages.

The pure scientist often had to lament his non-acquaintance with practice, as was the case with Darwin, who said that every botanist should have spent part of his training as a gardener.

Since horticulture was of such vast importance to the people of this country, was it too much to ask that the Government should render financial assistance, in the way of bursaries and scholarships, to help forward this scheme for the better education of gardeners? Surely not! And one ventured to hope that something of a definite nature in this respect might be the outcome of that great conference.



### THE WOOLLY APHIS.

A SHARP look out should be kept for this pest on apple trees; old trees when affected should be brushed with paraffin and the younger ones with methylated spirits.

A very good mixture to use, known as Nessler's Mixture, is made as follows:—1 part of soft soap is completely dissolved in 13 parts of warm water, and to the solution, when cool, add 2 parts of fusel oil (amyl alcohol) and 4 parts of spirits of wine. This mixture has the peculiarity that each drop spreads at once whether the surface be dry or wet, so that it penetrates and kills the Aphidæ which are concealed. Shake the solution well before using.

The Aphidæ met with in summer are females, fertile without pairing; when full grown they bring forth 30 or more living young, and it is said to be possible for the descendants of a single aphid to amount to millions in a year.

\* From a paper read at the Conference at the International Horticultural Exhibition.

## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.



**T**HE flower garden will be very gay during the present month. Roses of sorts will now be in full bloom, and will amply repay a little extra attention. Give them an occasional watering with weak liquid manure; remove all blooms that are past, and if an autumn display is required cut each shoot back to a plump bud. I refer to Perpetuals, Teas and Hybrid Teas. If watered and kept clean, they will again flower freely during August and September. The rampant Bourbons, Noisettes, Musk, and the Hybrid Sweet Briars, &c., should have some of the old shoots which have flowered cut off to make room for and encourage strong, young growths from the base of the plant for next year's display. Should it be desirable to increase any variety, it can now be budded on briar or any suitable stock.

Carnations should have their flower shoots secured to small stakes, and their young growths layered for the coming year's supply.

Hedges can be clipped by the middle of the month, as they will then have nearly completed their growth. Stake tall plants in borders which are likely to be injured by storm or heavy rain. Verbenas, Heliotrope, Agathas, &c., should be pegged down so that the surface of the beds is completely covered. Keep the flower-beds and borders neat and clean; grass must be kept short and walks cleaned and rolled.

Many of the plants required for autumn planting should now be dibbled out into nursery lines, so that they will be strong and well-rooted by October; this refers to Wallflowers, Polyanthus, Daisies, Pansies, Myosotis, &c., which were sown in May. Cuttings of Violas, Arabis, Aubrietias, &c., should be inserted in cold frames in a north aspect; if shaded from bright sun and kept moist they will soon make roots, when they can be exposed to full light and air.

Choice Double Daisies should be increased by division, also the Double Primroses. See that Violets do not become dry; hoe between plants, remove runners, and keep clean.

### The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath,  
Killruddery, Bray.

**STRAWBERRY RUNNERS.**—These should be selected from strong, clean plants; for preference, from the bed planted last year. The strawberry can be propagated in various ways, though I consider that the best method is to layer them in small pots, three-inch for choice. These should be thoroughly

clean, with a few leaves or fibrous loam placed in them before filling them with good, rich soil. Some growers believe it to be advantageous to sink the pots nearly to the brim, but it is not usually necessary if you make sure they are standing level. As soon as the runner has developed a few leaves it is pressed closely upon the soil in the pot and kept in contact with it by means of a small hooked peg. Then keep them sprayed over with a rose during dry weather, and they should be ready for severing from their parent plants in three weeks. When they are taken off place them in a cold frame or a shady place and give them water. The earlier you can get young runners the better both for forcing and planting out. If you have not already prepared your new bed, it should at once be done. A nice, rich soil, somewhat on the heavy side, will be found most suitable with south aspect. Try and get them planted by the end of July, then you should have some splendid fruit off them the first year.

**APPLE TREES** will require your attention, for most of them are infested with web and maggot; they should be carefully picked off and burned. The few that have a small crop are not swelling satisfactorily. We have been getting slight showers with harsh winds, which are all against successful cultivation of fruit. When in England for the great International Exhibition I visited several large gardens in five different counties, and in each of these places I found the apple crop very much under average. So if it is any consolation to Irish growers I can tell them that Ireland is treated no worse than the other side of the Channel. On the other hand, pears are promising excellent returns for the labour spent on them both in England and Ireland. See that these do not suffer from want of nourishment, especially those growing on walls; remember that very often they derive little benefit from rain in summer. Weak liquid manure may with advantage be applied to bush fruit, including currants and raspberries, and the latter should be kept neatly tied to wires or stakes.

**GRAPES.**—The atmosphere in the early houses must be kept drier. Ripe grapes will need very little watering for some time. Be sure and keep free ventilation both on top and front sashes. Later vineries, of course, will require more moisture, with plenty of air during sunny weather; and on no account close the house at night if you are growing the Madresfield Court variety, or you will wake up some morning to find a lot of berries cracked, and perhaps good bunches destroyed.

Recommence syringing peaches and nectarines when you have finished gathering the early fruit; also be careful not to allow them to become dry at the roots. If possible, take off the lights, or at any rate give the trees every chance of ripening their wood, keeping foliage fresh and free from red spider, for next year's crop will greatly depend upon the way they are treated during summer and early autumn.

### The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor,  
Co. Kildare.

**D**URING the months of July, August, and September, numerous shows will be held, and prizes will be offered for vegetables. To win prizes vegetables require constant attention in watering and mulching, the value of which on light shallow soils can hardly be over estimated; in all soils, in fact, from heavy clay to sandy soil, a good mulch put on when the ground gets warm will save



much labour in watering. For the past two weeks we have had very heavy rain, and it has done crops in the vegetable garden great good, also allowing the transplanting of all the Brassica family to their final quarters, and the thinning and transplanting of lettuce and turnips, those transplanted coming in about two weeks after those not done so. Make a final sowing of French beans the first week of this month on a warm, sheltered border in double lines two feet apart, and place the beans ten inches apart in the lines, and sow zig-zag. Canadian Wonder is a good variety with extra long tender beans. This year I am growing for a general crop a variety called "The Belfast," sent out by Dicksons, Dawson Street, Dublin, which I consider, having seen it grow in several gardens last year, an improvement even on Canadian Wonder; the seeds are piebald, being black and white. A small sowing of an early variety of pea might be made at once, Bountiful or Pilot being useful. I notice that the pods of early peas are not so well filled as usual, many peas in the pods remaining small; of several early sorts grown Pilot is the worst, but all have many small peas. Get finished with planting out cabbage, cauliflower, savoy, and flowering broccoli, also celery if not already done, as late planting is not to be recommended.

In the growing of celery and leeks for exhibition, strong paper bands, if put round the stems of the plants, assist blanching before earthing up with clay, thereby allowing the plants to be fed with liquid manure and a good artificial manure. From the middle to the end of the month make a sowing of cabbage, selecting an early variety not liable to run to seed. Excelsior (Hawthorn), Ellam's Early, April, Early Offenham and Flower of Spring are all good, the last two varieties being much larger than the first three, though perhaps fit for use a week or two later in spring. A sowing should also be made of Tripoli onions, Giant Lemon Rocca and Red Flat Italian, and at the end of the month also make a sowing of Ailsa Craig onion if required for early summer shows held in July and early August, for though many of the plants may run to seed, those remaining will form larger and better finished bulbs than the Tripoli varieties.

**TURNIPS.**—Make a good sowing of turnips during the month, such varieties as Orange Jelly or Golden Ball. Veitch's Red Globe and Black Stone stand the winter well, and if the crops are full grown before the winter, they can be pulled and pitted like potatoes. If not already done, spray at once maincrop potatoes, thereby preventing the blight being blighted, as spraying is a preventive not a cure. As crops are gathered clear the ground, and make ready for another crop, digging and manuring if necessary.



#### THE SONG OF THE EXHIBITOR.

Oh, give me air, and syringe me with waters of Cologne!

Dry as a *Hortus siccus*, run to seed and overblown,  
I try to keep my head up, but down it goes again,  
Just like those drooping, stooping flowers, well  
named the *sickly men*.

I'm a poor, used up exhibitor,  
Knocked out of present time,

## Pond-weed and Copper Sulphate.

**A** FREQUENT application for advice made to Kew is from correspondents whose ponds or lakes are infested during summer by the various forms of *Algae* or "weed" found in British waters. Every one knows the unpleasant nature of the scum-like and other growths that are nearly always seen at that season on still, or nearly still, water. They not only frequently destroy the beauty of ponds entirely for a time, but are offensive to the nostrils as well. A good deal of this annoyance may be avoided by the use of copper sulphate. Owing to the water of the Lake at Kew being pumped for garden purposes (including the watering of ferns and other low types of vegetation) it is considered inadvisable to use copper sulphate there, but it is employed with advantage in the smaller ponds. The proportion used is one part copper sulphate to anywhere from 750,000 to 1,000,000 parts of water. It is first necessary to ascertain, approximately at least, the cubic contents of the water to be treated. The sulphate of copper should be obtained in a pulverised state, placed in a porous bag, and dragged through the water until dissolved. It does not matter how the sulphate is distributed so long as it is done thoroughly. It may be dissolved previously and sprayed evenly over the surface, provided no water-lilies or other aquatic phanerogams are in growth. It may be mentioned that a cubic foot of water weighs about 62½ lbs.

During the last two summers a striking example of the effective use of copper sulphate has been provided in St. James's Park. Previously it had been a costly and troublesome matter to keep the water there presentable in hot weather by employing men in boats to remove the weed with rakes, &c. The copper sulphate treatment was adopted, with the result, we learn, that at a much less expenditure in money and labour it can now be kept practically free from weed.

A fact of considerable interest has also been reported by the Superintendent. The ponds are cleaned out triennially and the surplus fish disposed of. In recent years it has been found that many of the fish were badly attacked by fungus, so much so that it became doubtful whether it was advisable to transfer them to other waters. We learn that at the last cleaning out the fish were quite free from fungoid disease and remarkably clean and silvery. This is of especial interest because one of the doubtful matters about the use of copper sulphate in water was its effect on fish. It has been found in America that certain delicate species were affected, but usually when a considerably stronger application was used than that mentioned above. W. J. B. in *Kew Bulletin*.



#### CAREX PENDULA.

THE Pendulous sedge is a handsome native, well suited for planting by the edge of a pond. From a tuft of evergreen leaves, stems rise from four to five feet high, bearing drooping, graceful spikelets, and eventually bear seeds, which ducks and waterfowl seem to enjoy.

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# Irish Gardening

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ADVANCEMENT OF HORTICULTURE AND  
ARBORICULTURE IN IRELAND

AUGUST  
1912

## Castlewellan.

By H. ARMYtage MOORE.

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GARDEN

HOWEVER lavish nature may have been to Castlewellan in its unrivalled scenic attractions, no one who has seen the place will deny that the hand of man has very materially assisted in the completion of a work of exceptional beauty and interest. Here, on richly-wooded slopes bounded by a mile-long lake, and backed by hills one thousand feet high commanding magnificent views to the south and east of mountain and sea, a rare collection of trees and shrubs has been effectively placed to add a permanent horticultural interest to a scene of great natural beauty.

A finer setting could scarcely be imagined and from soil and slope as from aspect and elevation the place was admirably designed as the site for the monument of horticulture which has been so effectually raised there. By happy chance its permanent adornment fell to the lot of two men most singularly fitted for the task, the late Hugh, 5th Earl Annesley, and his gardener, Thomas Ryan. Neither, alas, is here to-day to view the hillside where for more than thirty years they co-operated so untiringly in an achievement which now stands as a fitting memorial of their united skill and good taste. One eminent authority has described the gardens at Castlewellan as a "gallery of exotics," and one may add a gallery of *choix* exotics, for the principle carefully followed here has been one of selection rather than collection. The object has never been merely to build up a catalogue, comprehensive as the one in question undoubtedly is, but to exercise the discrimination acquired by experience. The wheat has been judiciously sifted from the chaff, and no

plant has found a permanent foothold in the grounds until the suitability for its position has been critically tested during years of nursery growth. The late Lord Annesley furnished his garden as the connoisseur furnishes his apartments. He picked out his pieces with a discerning eye; he spared no pains to obtain the best plants to suit his purpose; he cultivated them with care, and above all he had the "landscape eye" to permanently place them to the utmost advantage.

As a consequence the visitor to Castlewellan to-day is no less impressed with the size and symmetry of the specimens than with the suitability of their surroundings. There is nothing haphazard in the prevailing harmony of colour in widely-varying tree and shrub, so tastefully grouped on grassy slope and hollow. The whole has been softly blended together; no individual plant obtrudes, yet each contributes to the restful, natural effect produced, which time alone will tend to intensify. In all this there is art, and, above all, the art that conceals art, and when, as at Castlewellan, art and nature are so happily united the result can lead to no disappointment. The soil here, to which the vigorous growth and brilliant colouring of so many varying species are mainly due, consists of a fair depth of light fertile loam overlying a gravelly subsoil, sloping somewhat sharply to the south and east, and providing an efficient natural drainage. A towering hill-top to the west and a surrounding growth of forest timber shelter the main gardens, and a four-mile proximity to the sea tempers the winter climate from the visitation of severe frosts. Under



such circumstances it is not unnatural that many exacting species, generally considered half-hardy, should here be found to flourish in full vigour.

In the majority of cases the finer specimens have been home grown from seed imported by the late Lord Annesley, whose enterprise and energy in this respect were amply rewarded by gratifying results in many cases. As witness the raising of several plants of the true *Picea morindoides*, hitherto unknown in this country, from seed received from India as *Picea morinda*. This rare species he had the privilege of presenting to the botanical establishments of Great Britain and Ireland. It was at Castlewella that *Lomatia pinnatifolia* first flowered in the United Kingdom, and though much difficulty was at first experienced in its propagation, plants have since been raised from home-saved seed and cuttings. This makes a very handsome evergreen, and its pink and yellow flowers, if scarcely showy, are admirably contrasted with a rich green foliage.

One of the most remarkable plants in the garden is a noble specimen of the true *Cordylina indivisa*, twelve feet high, with individual leaves five feet long and seven and a half inches broad, distinguished by a dark orange-coloured midrib. The whole plant is in perfect health, but the presence of a numerous colony of sucker growths about its base may indicate the approach of parental extinction. Another specimen of equal age and size, having similarly provided for its own propagation, showed unmistakable signs of decay in softening bark and withering leaf. In this instance, in May, 1911, the main stem was encased in a wooden tub filled with sandy leaf-mould, supported by posts three feet high. By the following October, the tub being well filled with stout fleshy roots, the main stem was sawn through immediately below it, and the entire top removed and separately planted elsewhere, the sucker-growth remaining uncut. It was hoped that the parent growth might thus be either rejuvenated or induced to flower before expiring. Unfortunately neither expectation has been realised, and the dismembered portion, after eight months well doing, now shows every indication of decay. The suckers, meanwhile, are daily increasing in vigour, and should eventually develop into a striking clump. *Restio subverticillatus*, another rare plant seldom found

out of doors in these islands, seems appreciative of the conditions under which it grows at Castlewella. Well sheltered by surrounding tree growths, in peaty loam, with a plentiful supply of water, when in full growth the vigour of the plant is well maintained, as is clearly evidenced by innumerable fresh young shoots (this season over fifty) springing annually from the root stock. Already this specimen is six feet high and eight feet through, and its light feathery, drooping foliage gives an effect at once graceful and striking. Its propagation out of doors proves difficult, but layering may yet be successful.

As regards the general collection at Castlewella, the necessary limits of this article will only permit of a brief reference to a few conspicuous shrubs, and in this case their selection is a matter of some difficulty where such a varied assortment of good plants is at disposal. Those enumerated, however, are noteworthy for flower or foliage—sometimes for fruit—and can be generally recommended to those whose gardens are reasonably free from harsh winds and severe frosts.

The gardens are distinguished by many fine specimens of *Acer palmatum atropurpureum*. One of the best, a plant of perfect symmetry and furnished to the ground, measures fifteen feet high and seventy-two feet in circumference. In autumn the leaf-colouring is brilliant in the extreme, and in this respect is unsurpassed by any other plant in the garden.

The New Zealand *Pittosporums* grow here with exceptional vigour, and prove perfectly hardy. Amongst some notable specimens may be mentioned those of *P. Mayii*, twenty-five feet high and sixty feet in circumference at the ground; *P. Colensoi*, a very graceful plant, thirteen feet high; *P. eugenioides*, nine feet high, and *P. eugenioides variegatum*, one of the best of variegated evergreens, nine and a half feet high; *P. undulatum*, *tenuifolium*, *Buchananii* and *Tobira*, are all well worthy of cultivation.

*Tricuspidaria lanceolata*, whose crimson bells hang so attractively in their rich, green surroundings, quickly develops into a shapely specimen, and freely flowered plants twelve feet high form beautiful subjects on the lawn. The white-flowered species, *T. dependens*, has so far proved disappointing, and cannot be described as a hardy plant.



CASTLEWEILAN, RESIDENCE OF EARL ANNESLEY, CO. DOW.



*Eucryphia pinnatifolia* takes a prominent place amongst decorative shrubs, and always looks the picture of health. A fine specimen, thirteen feet high and twelve feet through, carries an immense crop of flowers every August. The seed, though slow to germinate, frequently proves fertile, and the plant may also be easily propagated by layering.

*Eucryphia cordifolia*, an evergreen species, though so far somewhat sparse of flower, grows steadily and well, and each season carries a few snow-white blooms. This plant is now eight and a half feet high.

*Plagianthus Lyallii* is as free-flowering as any *Spiræa*, and bears its white, cup-shaped blooms in the greatest profusion early in July. It grows rapidly in a well-furnished, symmetrical habit, and comes freely from seed—young plants frequently showing flower at an early stage of growth. Specimens here have already reached sixteen feet high and as much through, and seem destined to attain to much larger proportions.

*P. betulinus*, twenty-five feet high, if inconspicuous in flower, forms a graceful birch-like tree, and grows rapidly and proves hardy.

*Styrax japonicum* undoubtedly forms one of the most delightful of July flowering deciduous shrubs. From the undersides of rigid lateral growths the fragrant snowdrop-like blossoms hang in endless profusion, and a good specimen in full bloom presents a truly charming picture. It would be hard to over-rate the merits of this plant. *Styrax obassia*, though less free in flower, bears drooping white racemes, and forms a handsome subject when well grown.

*Cornus Kousa*, whose inconspicuous flowers are subtended by creamy white bracts changing to pink, and *C. florida*, bright pink, make very effective specimens on the lawn.

*Stuartia pseudo-camellia*, bearing white camellia-like flowers, needs a cool, peaty soil and a sheltered situation. Eight feet high specimens flower freely here, and never fail to attract admiration when seen at their best.

*Carpenteria californica* makes a beautiful plant for a low, sunny wall. The narrow-leaved form is found to be more floriferous than the typical plant, and is generally to be preferred to it.

*Feijoa sellowiana*, though growing in the open here, and carrying a few flowers every year, seems more adapted to a warm wall where

its silver petals and its crimson stamens may be more freely produced.

*Desfontainia spinosa* makes a handsome holly-like evergreen, and when clothed in mid-summer with its scarlet and yellow tubular flowers gives a brilliant effect. The habit of growth is close and compact, and some remarkable specimens here measure ten feet high and fifty feet in circumference at the ground.

*Olearia macrodonta* is too well known to need description, but a good plant here ten feet high and sixty feet in circumference makes a prominent picture on a grassy slope.

*O. nitida*, a good evergreen and a plant of much beauty when in full flower, has provided many self-sown seedlings from which an exceptionally large-flowered form has been raised.

*Cercidiphyllum japonicum*, remarkable for its delicate pink and amber-tinted foliage both in spring and autumn, has developed into a shapely specimen thirteen feet high by forty feet in circumference.

*Hamamelis mollis*, bearing golden-flowers on leafless stems in winter, is particularly welcome in the garden.

*Hoheria populnea*, though slow to form its pure white flowers till well established, may yet prove a valuable addition to our deciduous shrubs.

*Exochorda grandiflora* and *E. Albertii* macrantha are two good early-flowering shrubs.

*Viburnum rhytidophyllum*, if disappointing in flower, gives ample compensation in boldness of foliage and freedom of fruit; the latter being of a claret colour and lasting well into winter.

*Sophora tetraptera*, fourteen feet high and as much through, freely bears its pendulous yellow racemes, and the variety *microphylla*, though smaller in all its parts, is scarcely less attractive.

*Nothofagus fusca*, already twenty feet high, promises to develop into a graceful semi-deciduous tree of beech-like habit, and has proved perfectly hardy.

*Stephanandra flexuosa* forms a very attractive spreading shrub of graceful habit, with clusters of small, white flowers prettily placed amidst the foliage.

*Raphithamnus cyanocarpus*, an upright growing evergreen, is more conspicuous for its rich blue fruit than for its flowers of paler hue.

*Cotoneaster pannosa* makes a graceful evergreen with grey-green foliage and brightly-



coloured, pendulous fruits. Even amongst the Cotoneasters there is scarcely a species more prolific of fruit than this.

Castlewellan is rich in Rhododendrons. Practically all the best hybrids have been added to the collection from time to time, and for many years one thousand plants were grafted each season. These, besides providing bold groups in the main gardens, have long since overflowed into woodland clearings and along the hillsides, sloping to the lake, where, in natural surroundings, the plants are seen at their best.

Such notable species as *R. arbo-reum*, *Auck-landii*, *barbatum*, *cam-panulatum*, *campylocar-pum*, *Falcon-eri*, *fulgens*, *niveum*, and *Thomsoni* have developed into conspicuous specimens, and can be relied upon to add much brilliant colouring to the garden in the early months of the year.

Of Conifers, Bamboos, wall-plants and climbers a thoroughly representative collection is grown, but consideration of space prohibits their enumeration here. In fact, even this brief reference to a selection of the plants grown in the open at Castlewellan to-day has already involved a serious encroachment upon the well-filled pages of IRISH GARDENING.

## Rosa lævigata var. Anemone.

THIS beautiful single rose is, by competent authorities, believed to be a hybrid between the Cherokee Rose *R. lævigata* and some form or variety of the Tea Rose.

Whatever the origin of this charming hybrid may be it is one of the most beautiful members of a universally popular family. A glance at the accompanying illustration, taken in the garden of Sir Edward Verner, Bart., Corke Abbey, Bray, will give a much better impression of this lovely rose than any written description could do.

The specimen illustrated was planted in April, 1911, and, as the picture shows, is already flowering freely, and promises to be a striking feature in a few years. The flowers,

as stated above, are single, about four inches across, and though deeper at first are ultimately a beautiful silvery rose colour. The leaves are large, of a dark, glossy green, retained into winter, so that the plant is partly evergreen. An older specimen which used to grow in



*ROSA LÆVIGATA var. ANEMONE*

In Sir Edward Verner's Garden

the gardens at Corke Abbey made shoots seventeen feet long, and flowered throughout their entire length. A rich deep soil and a sunny, sheltered position are necessary to succeed with this beautiful rose. It is not to be recommended for cold localities, and doubtless the mild and equable climate of Bray accounts in some measure for the healthy, happy appearance of the plant illustrated. There are, no doubt, many parts of Britain and Ireland where such a suitable position might be found, and certainly no lover of plants and flowers would grudge a considerable amount of thought and labour if the result were a happy well-flowered specimen.

## Roses.

By O'DONEI BROWNE, M.D.



I HAVE often wondered why all the text books one comes across on Roses extol, in my opinion, the maiden flower so much. Is it because they have seen maiden blooms so much in the nurserymen's stands, or is it because one man has written such in his book and others have copied it? I know that this has happened in medical text-books, so, I presume, that this has happened in Rose literature. When I began rose growing I got the idea into my head that, if maidens were grown, I would have perfect flowers off all my plants. The first year I ran a good many standard Teas, and the flowers were the best I ever cut. Then I turned to seedling stocks, and I found that the flowers were poor, but growth was, on the whole, far superior to that on maiden standards. Then I heard an argument about maidens on the seedling and briar cutting as stocks. I drifted to the briar cutting, using this as the only stock for my Roses, and I found that flowers and growth with me were the best. This year I

had very promising growths, and fine buds set when I left home for my holiday, and I was set wondering when I heard that only one flower off all my plants had been in our stands at the Rose show in Dublin. Truly, the Rose is a tantalizing flower to have to deal with. It is like a lot of people one meets who are always promising one a good deal and who never keep to their promises. Why then bud them? The answer is that you have the trees growing as maidens for one half the cost (or less), and you can shift them in the early autumn more expeditiously than you can bought plants, and you can do this most important operation as you find the opportunity. You have a lot of chance work when you order from a nursery; your plants may arrive when weather conditions do not suit, and if you have your own maidens you can move them from their nursery lines to their permanent quarters far earlier and far quicker and with less check to them than if you buy. I know the nurseryman will growl at this article, but you can keep him at bay by every year getting some of the novelties from him. Then, if you have your maidens you can propagate as many of each variety as you like, and get what you want at a small cost. Roses, like human beings, want to get used to a particular climate before they thrive. By raising your own briar cuttings, and by budding them where they are eventually to remain, you have the satisfaction of knowing that your Roses have been given the best possible chance, and you will find that you have your trees for far less than you would get them from some (not all) nurseries. It takes more time but who minds time if your flowers are good.

## Ceanothuses.

By J. W. BESANT.

IN all collections of select and beautiful shrubs Ceanothuses are sure to find a place. Though some of the species and varieties are not hardy enough to grow as bushes in the open, yet they are far more worthy a place on a sunny wall than many commoner things which are frequently planted there quite unnecessarily. A rough division of the genus may be made into evergreen and deciduous species.

The former are mostly spring and early summer flowers, and well-flowered specimens present a charming spectacle. A warm, loamy soil is eminently suitable to the growth of Ceanothuses, and a free exposure to sun and air conduces to floriferousness. This will be readily understood when it is known that most of the species hail from the warmer parts of America. The deciduous species, of which there is a large number of hybrid forms, flower in late summer and autumn. They are generally hardier than the evergreen kinds, and though the shoots may be killed back somewhat in winter they "break" again in spring from the base, and have several months in which to make growth before flowering.

The growth and time of flowering decide when and how to prune. The evergreen species do not call for too much attention in this respect. When young they may be shortened back immediately after flowering to form bushy specimens, but mature specimens will only require occasional attention to maintain them in shape and within their prescribed limits.

Deciduous species, on the other hand, should have the previous season's shoots shortened back more or less according to the position in which the specimen is growing. Any dead wood, of course, will be entirely removed.

Specimen beds or groups are highly effective in the pleasure grounds, while, as noted above, well-grown wall plants are not less charming. Ceanothuses may be increased by means of cuttings and layers, and in the case of true species by seeds. Cuttings of half-ripened shoots removed with a "heel" in July or August may be rooted in a close frame or under a bell-glass, but the process is hastened if a gentle bottom heat can be applied.

**EVERGREEN SPECIES.**—*Ceanothus divaricatus*, a native of California, makes a good wall shrub. It bears smooth, oblong leaves on spiny branches and pale, blue flowers which are produced in summer. *C. Fendleri*, found through Colorado, New Mexico, and Arizona, is, perhaps, the most distinct of all. Of rather slow growth, it has withstood several winters in a shrubbery at Glasnevin. The branches are stiff and spiny, the young ones covered with a minute grey pubescens. The leaves are small and pointed, the under surface furnished with soft, white down. The flowers are white, produced on short side shoots in July. *C. papillosus*, from California, is distinguished by its long, narrow leaves being covered on the upper surface with minute nipple-like projections known as papillae. It is a good species for wall culture, though it is thriving in a shrubbery at Glasnevin. The flowers are of a pretty bright blue colour. *C. rigidus*, also from California, is a striking species, which is proving



fairly hardy at Glasnevin in a shrubbery. A small plant, put out about four years ago, has flowered annually, and is now about six feet high by four feet through, and gives promise of making a handsome specimen. The leaves are roundly wedge-shaped and strongly toothed, and the rich purple-blue flowers are freely produced in April and May along the previous year's shoots. *C. thyrsiflorus*, the Californian Lilac, is a handsome, hardy species, sometimes confused with *C. divaricatus*. It bears ovate, glossy, green leaves, the margins of which are furnished with small glands, as is the case with most *Ceanothuses*. The flowers, which are bright blue in colour, are freely produced in May and June, and last for several weeks in beauty. This species is a strong, vigorous grower,

localities, but in most districts they are quite bare by spring. The two chief species are *C. americanus* and *C. azureus*, the former with small, white flowers and the latter with pale blue flowers. The leaves in both species are much larger than most of the evergreen kinds and are ovate, tapering to a point, finely toothed with a soft grey down on the under surface. There is a very beautiful variety of *C. americanus*, namely *opacus*, which bears lovely thyrses of pale pink flowers. Most of the popular garden varieties seem to have been derived from these two species, and resemble them in habit of growth, but many new and charming shades have been obtained. A great many forms have been distributed from time to time, but no attempt will be made to name them all. A few only which have



CEANOTHUS THYRSIFLORUS IN SIR EDWARD VERNER'S GARDEN.

suitable for either a shrubbery or for covering a wall. The specimens illustrated show the value of this species for wall culture. They are growing in the gardens of Sir Edward Verner, Bart., at Corke Abbey, Bray, and were planted out from small pots in May, 1906. *C. thyrsiflorus var. griseus* is a distinct plant with larger leaves than the type and bearing thyrses of light grey, blue flowers. It is sometimes distributed as *C. integerrimus*, which is a different species. *C. th. griseus* is confined to the Monterey Peninsula. *C. Veitchianus* is likewise from California, from whence it was introduced by Messrs. Veitch many years ago. It is one of the best of all the earlier flowering kinds, covering itself with bright blue flowers annually. The leaves are somewhat rounded and rather wedge-shaped, the margins slightly toothed. It grows well with others in a shrubbery at Glasnevin, and is beautiful when grown against a wall.

**DECIDUOUS SPECIES.**—Some of the following kinds retain their leaves well into winter, especially in mild

been grown at Glasnevin will provide a fair selection : *C. Albert Pittet*, a free-flowering variety, bearing fine rosy, lilac blossoms ; *C. albus plenus*, with compact thyrses of flesh-coloured flowers ; *C. Ceres*, good spikes of rose flowers ; *C. Charles Dériché*, fine large inflorescences of dark blue flowers ; *C. Croix du Sud*, intense blue ; *C. Georges Simon*, rose lilac ; *C. Gloire de Plantières*, a lovely form with beautiful azure blue flowers ; *C. Gloire de Versailles*, one of the finest with large spikes of lavender blue ; *C. Indigo*, one of the best, with deep violet blue flowers ; *C. Le Gardeis*, rosy purple ; *C. lustre*, carmine rose ; *C. Lady Mary*, rosy violet ; *C. Pingnet-Guindon*, a very beautiful sort with fine rose-coloured flowers ; *C. St. S.*, brilliant blue flowers.

In addition to the species noted above there are several others known to cultivation, but the true plants are not commonly met with outside a very few Botanic gardens.



# Fruit Crop and Fruit Crop Prospects (Ireland), 1912

NOTE.—The date of this Report may be taken as the 15th July. In order to secure as much uniformity as possible in the Returns a scale of descriptive terms was agreed upon, viz.:—Very good, good, average, below average, bad. The names of County Instructors in Horticulture are starred (\*).

County and Locality	Apples	Pears	Plums	Cherries	Gooseberries	Currants	Raspberries	Strawberries	Names of Correspondents
<b>ULSTER</b>									
<i>Antrim</i> —County	Average	Good	Good	Bad	Very good	Average	Good	Bad	R. H. Clarke *
Larne	Very good	Bad	Bad	Average	Very good	Very good	Below av.	Bad	J. Guy
Langford Lodge	Bad	Very good	Average	Below av.	Below av.	Average	Good	Good	H. Drew
<i>Lmagh</i> —South County	Below av.	Good	Very good	Average	Good	Good	Below av.	Average	F. Tunington *
Anaghmore	Below av.	Average	Very good	Good	Good	Average	Good	Below av.	J. Hagan *
<i>Cavan</i> —County	Bad	Average	Average	Average	Very good	Below av.	Average	Below av.	J. J. W. Dunlop
Ballyhaise	Good	Below av.	Very good	Average	Very good	Good	Average	Average	L. Douglas *
<i>Derry</i> —County	Bad	Good	Good	Good	Very good	Good	Very good	Below av.	J. Forde
Tobermore	Average	Below av.	Very good	—	Good	Very good	Good	Below av.	F. W. Ward *
Monymore	Below av.	Good	Very good	—	Very good	Very good	Very good	Average	J. Diamond
<i>Drom</i> —County	Below av.	Below av.	Very good	Good	Very good	Very good	Very good	Good	G. Fraser
Stormont Castle	Below av.	Good	Average	Average	Very good	Very good	Very good	Below av.	T. Scott *
Gilford	—	—	Average	Good	Good	Good	Good	Below av.	J. Troup
<i>Down</i> —County	Below av.	Good	Very good	Below av.	Good	Bad	Below av.	Below av.	J. Lynas
<i>Fermanagh</i> —County	Below av.	Good	Average	Average	Average	Good	Very good	Average	P. J. O'Carroll *
Crom Castle	Below av.	Bad	Average	Below av.	Good	Bad	Bad	Bad	P. Brock *
Florence Court	Average	Very good	Good	Good	Very good	Very good	Good	Bad	A. Reid
<i>Monaghan</i> —Rossmore Park	Bad	Good	Average	Below av.	Very good	Good	Good	Very good	D. Sutherland
do. County	Average	Below av.	Very good	Good	Very good	Very good	Very good	Very good	A. Tyler *
<i>Tyrone</i> —Clogher Park	Average	—	Damsons	—	Good	Below av.	Average	Bad	J. Tonar *
Stuart Hall	Average	Average	Good	Below av.	Good	Good	Very good	Bad	D. M'Laren
County	Below av.	Good	Good	—	Very good	Average	Average	Bad	W. Henderson
<b>MUNSTER</b>									
<i>Clare</i> —N market-on-Fergus	Good	Good	Average	Nil	Good	Good	Very good	—	P. Queady
Carrigoran	Average	Good	Average	Average	Very good	Very good	Very good	Very good	A. Barker
<i>Dramoland</i> —Castle	Very good	Very good	Below av.	Average	Very good	Average	Very good	Average	J. Carter
County	Good	Very good	Below av.	Average	Good	Good	Very good	Average	J. Gremnan *
<i>Cork</i> —	Average	Good	Average	Average	Very good	Good	Very good	Good	J. Deamaley
Munster Institute.	Good	Good	—	—	Very good	Very good	Very good	Average	M. Punch
County, West	Good	Very good	Good	Good	Very good	Very good	Good	Average	J. Bracken *
Do. East.	Very good	Average	Average	Average	Very good	Average	Very good	Average	J. Biemen *
Fota Island	Very good	Good	Very good	Good	Very good	Very good	Very good	Good	W. Roswick
Castle Bernard	Very good	Very good	Good	Average	Very good	Very good	Very good	Average	P. Harper
<i>Kerry</i> —Muckross	Good	Average	Average	Good	Very good	Very good	Very good	Average	L. Nelson
Killarney	Average	Good	Average	Good	Very good	Very good	Very good	Below av.	A. J. Elgar
<i>Limerick</i> —County	Very good	Average	Average	Good	Very good	Good	Good	Below av.	J. Malone *
Mount Trenchard	Good	Good	Very good	Very good	Very good	Very good	Good	Below av.	J. J. Alcorn
<i>Tipperary</i> —Cahir Park	Very good	Very good	Average	Very good	Very good	Very good	Very good	Average	E. J. Rogers
North	Good	Average	Good	Good	Very good	Very good	Good	Good	J. J. Carolan *



## Fruit Crop. 1912.

AS was anticipated from the abnormal heat and drought of last autumn, and the way in which most of our fruiting plants and trees ripened up their wood, we had a record year of fruit blossoms. Old growers inform me that they never saw such a wealth of blossom as appeared on the trees this spring. In the plum and damson growing districts the plantations were white with blossoms, and the apple growing districts looked very well when the trees were covered with flowers.

Bush fruit plants suffered very much from the effects of last autumn's drought and heat, with the result that raspberries did not grow a good succession, and those that did grow were weak. Strawberries suffered most, and as the plants in most cases were weakened, there were many deaths in a number of plantations.

In a number of plantations gooseberry bushes were killed outright by drought last autumn. Apple trees of various sizes also suffered to a more or less degree, as many trees which bore a large crop last year and previous years are bearing a very scanty one this year.

The crop up to the present date, which may be taken as the 15th July, has been about an average one, and the prospects of an average crop may be looked forward to from most of our late fruits.

The spring frosts of this year were very severe on the apple, gooseberry, strawberry and raspberry plants and very young fruit. May of 1912 will be long remembered in Ireland by fruit growers as a disastrous month. The most destructive frost was on the night of the 12th of May, when the thermometer registered 10 degrees of frost.

This month and April were two very dry months, less than three inches of rain falling during the two months. June, however, was very cold and wet. No less than three inches of rain fell in Co. Dublin, and in Kilkenny 6.32 inches was recorded, this being the wettest June since 1884.

The frosts of May appear to have been general all over the country, though more severe in some parts than in others. In Co. Down and Co. Meath not only the young fruit of apples was destroyed, but also many, and in one case the whole, of the young shoots. Frost did much more harm than insects this year, as many flowers and trees fairly free from injurious insects failed to set many fruits even though the flowers were hand fertilised.

Apples, taking the country as a whole, are about an average crop. In the north and west it is much below that of last year, and the staple apple, Bramley's Seedling, will be a below average crop. In the south the crop will be a good average one, and dessert varieties are doing well in general, excepting Cox's, Allington, and Victoria. These varieties bore exceedingly well last year. Many of the apples, even when well set and commencing to swell, dropped off during the hot days and cold windy nights of May.

Old and well-established trees of the early cooking apples are bearing a good crop in many districts, especially Leinster. As regards cropping of various

varieties, they are very irregular this year. In one district they are bearing fairly well, and in another bearing very few fruits.

The following varieties, however, are in most cases bearing good crops:—Stirling Castle, Bramley's Seedling, Bismarck, Lane's Prince Albert, Lord Derby, Irish Peach, Beauty of Bath, Lady Sudeley, James Grieve, and Worcester Pearmain. The fruit will have to swell rapidly during the next two months or they will be below the average in size, many of them being at present small, and do not appear to be growing freely.

Pears in general are one of the best crops of recent years. The blossom, which was very plentiful, opened early during mild weather, and the fruits were well set before the cold nights came on. Though many of them dropped off, enough remained to form a good crop. In few districts is the crop a bad one. The varieties Fertility, Clapp's Favourite, Beurré d'Amanlis, Pitmaston Ducebess, Williams' Bon Chretien and Doyenné du Comice are in most cases bearing good crops.

Plums in general are bearing a good crop, much better than last year. Only four per cent. of the correspondents return a bad crop. Trees in the plantations which I have seen are bearing from good to very good crops. The variety bearing best is Victoria, it standing out from the others as a cropper. Orleans, Belle de Louvaine, Czar, River's Early Prolific, and the Old Horse plum are bearing good crops in general, and most varieties are bearing well on walls. Damsons, especially the old cluster variety and young trees of Bradley's King, are also bearing well in general, whether under cultivation or in grass. Trees of the Bullace are not bearing such a good crop.

Cherries are a good crop in general, especially where grown for market purposes, in Counties Wicklow, Dublin, Meath, and Derry. They did not suffer so much from frost as in previous years, nor was the black-fly so destructive. The fruit was in most cases of a very good quality. May Duke and Black Heart bore good crops.

Gooseberries are a good crop and the berries are larger and colouring much better, and are of a better flavour than usual. Whinham's Industry is bearing the heaviest crop. Good crops were also on the Early Sulphur varieties. White Lion, Ironmonger, Crown Bob, Whitesmith and Keepsake are all bearing well. Good prices have in general been obtained in the market for good samples.

Currants are in general an average crop. The blacks, which promised very well, suffered very much from the frosts of May, and the harsh, dry winds were very severe on the young shoots and foliage at that period, with the result that little growth was made, and aphids played havoc with the young foliage and flower trusses, many of the flowers being killed, and the young fruits dropped off. Good prices are being obtained for good samples in the market.

Raspberries in the commercial plantations are an average crop. They are, however, much better than was anticipated. The canes produced last year were short and weak: they were, however, well ripened and are bearing good crops for the size of the canes. The



frost ruined a few of the flowers, but did not do much damage, and raspberries were ripe very early this season. This year's fruit is clean, large and of good quality. A good succession of canes is being produced for next year's crop.

Strawberry plants started away rather weakly and improved rapidly as the season advanced. They flowered early, and though the flowers were not very numerous they set well and swelled very rapidly. The first fruits came in very early and were of good colour, size and flavour, the warm, sunny days of May being of great assistance to the plants. June, however, tolled the death knell to our strawberry crop. The constant rain and moist atmosphere prevailing at the time caused the majority of the mid-season and late berries to mildew, and much of the crop was lost. Some districts did not suffer as much as others. It is some years since strawberries in the Dublin markets maintained such a high price throughout the season for good fruits.

Fungoid diseases are very prevalent this year, especially canker and spot or scab on apple and pear trees, mildew on apples, and American mildew on gooseberries. The variety of apple Bismarck appears to be most susceptible to mildew. Silver leaf on plums is being gradually cleared out owing to the stringent methods adopted.

Where a large number of varieties of apples are grown on the same kind of soil, a number of them are almost certain to show signs of canker. It is, therefore, no great surprise to find that no less than twenty-seven correspondents report it as their worst fungoid pest; twenty-six of them report spot or scab as their worst, and this, undoubtedly, is a bad pest; eighteen report that American mildew in gooseberries has caused them most damage. Only one case of raspberry rust has come under my notice this year. A few days ago I came across a bad case of brown rot in a commercial plum orchard in Meath; this is very prevalent in the Evesham district, but not very common in Ireland.

Insect pests have been very troublesome this year. The harsh, dry weather of May was very favourable to the spread of these pests. Caterpillars of the winter, ermine and tortrix moths have done much damage to the apple leaves, and those of codlin moth and apple saw-fly to the apple fruits.

Green-fly, which is reported by forty correspondents as their worst pest, has undoubtedly been very bad this year, as also has the American blight on apple trees, which is reported by twenty-one correspondents.

Caterpillars of the gooseberry saw-fly, which is reported by twenty-one correspondents, and magpie moth have been very destructive on gooseberries and red and white currants; and on the 9th July I found the caterpillar of magpie moth doing much damage to a laurel hedge.

Winter moth is reported by thirty-five correspondents, codlin moth by fourteen, ermine moth by nine, and apple sucker by twenty, as being very troublesome pests. Aphid and sucker have done much to reduce the apple crop.

W. S. IRVING.

## Driblets from the Dublin Show.

WE have an idea that at a rough estimate one per cent. only of visitors to the shows held in Lord Iveagh's grounds, Stephen's Green, ever explore them in their entirety. More, what is missed is really the prettiest part—the garden part, in fact, of the grounds. This in allusion to the spacious, panelled garden in touch with the back of Lord Iveagh's residence, which, although quite approachable, is quite secluded from the central space where tents are pitched and battles lost or won. But there is one glory of the show and another glory of the grounds for those who know its geography. Naturally, visitors stick to the band, surely the most melodious of all military bands, and the band sticks to the big fountain, but there are breaks when it would be well worth while for visitors to extend the itinerary not only in the direction indicated but to all points of the compass, not forgetting that wonderful ivy-clad terrace walk parallel with and close to the rear of the Royal University.

We have but few criticisms to offer on this particular show, which seemed to us essentially one of Roses and hardy flowers. Respecting Roses, nevertheless, aspirants for honours would do well to note that in adding extraneous foliage to boxed blooms they run the risk of disqualification. One exhibitor had adorned his (or her) H. P. blooms with what looked like the dark-hued, elegant foliage of *Rosa rubrifolia*, and, tell it not in Gath, the situation was saved by its surreptitious removal under the very eye of the legal luminaries. The day was not a good one for the Rose under canvas coverings, culminating as it did in that unkindly shower when the military flew to the trees to finish their warblings and the millinery to the tents pervaded by that dim, religious light decidedly detrimental to the display. Hardy flowers for the season we thought well shown and eminently satisfying, and, in a sense, so was the fruit, for that big melon, which was so dexterously dissected and lavishly distributed at the close of the show, was so utterly innocent of flavour or "smell" that a very little of it went a long way.

Is melon growing a lost art? Times were when at similar shows one could "feel" melons "shouting" all over the show. As for the rest of the fruit it wanted that ripening influence which has since been vouchsafed to us, and that is all there is to be said about it. But what about vegetables? Have our clever craftsmen nothing but eyes for Sweet Peas? And is the common old culinary kind, and all the things of the kitchen garden which go to keep the cook happy, now so commonplace? We have no fault to find with the stands which were put up, it is with the showmen, at up which makes us repeat the question: What for? Perhaps a little more stimulation is needed to make them sprout at a summer show. Anyway, there is a fine fertiliser in the form of St. James Mackey's cup bringing them on for the next merry meeting, and hence *au revoir*. QUIZ.

## Hints to Amateurs.

By R. M. POLLOCK.

**CARNATIONS.** Layering these is often more satisfactory than cuttings, and as it can be done round the plants it saves space. The materials required should be prepared beforehand, and these will be pegs which can be either made of wire, about four to five inches long turned over at one end, or wooden pegs cut from twigs of birch or privet. In a discarded birch broom good pegs can sometimes be found. A basket of fine soil—old potting material is excellent—a hand fork and a sharp knife. Fork the soil lightly round the selected plants, and pick out moderately strong growths to layer as close to the centre of the plant as possible. Sprinkle some of the fine soil round the plants, and with the sharp knife remove some of the lower leaves, then make a slit upwards, about one and a half inches long, through a joint; peg this down and see that the tongue caused by the cut remains open; cover with soil and keep moist.

**CUTTINGS.**—Violas, Pansies and Pentstemons may all be put in this month, and will root freely in a shady border without protection. This and next month (September) are best for rooting cuttings of trees and shrubs. Take the well-ripened wood of this year's growth, and where possible pull them off with a "heel" as described in July hints. Firm the soil in the cutting bed before inserting the cuttings, and cover with a hand light, cap glass, or bell glass until rooted. These should be shaded with matting or a coating of white-wash on the inside of the glass to keep off the hot sun during bright weather. The whitewash is easily rubbed off later on, but if put on the outside of the glass it will wash off during the first shower of rain.

All annuals gone out of flower should be cleared away and burnt at once. They look untidy if left, and their seed is of little use. It is far better to buy fresh seed every year than to save one's own.

Strawberry plantations may be made. Select strong layers of good varieties, and plant eighteen inches to two feet apart each way. Cut all runners not required off the old plants and keep the plots free from weeds. Remove all material used for netting and, if dry, store. If the netting is stored wet, it will rot. Raspberry canes which have fruited may be cut out, and the young ones tied in, and where growing strongly these may be thinned out to six or seven to each stool.

Lavender may be cut as it opens. Place the heads on sheets of paper in an airy room and let them dry gradually. If Lavender dries too quickly it soon becomes brittle and turns to powder in a short time.

Towards the middle of the month the first potting may be made of Roman Hyacinths and Freesias. Place ten to twelve Freesia bulbs in a five or six-inch pot of loam, sand and leaf-mould. Cover the bulbs with about an inch or so of the compost, and place the pots in a cold frame. It is unnecessary to plunge them either in ashes or fibre. When they have made an inch or more growth they can be removed to the greenhouse.

The same directions apply to Roman Hyacinths, except that being larger bulbs fewer go to a pot, and when potted they must either be plunged or put in a dark place to encourage the making of roots before throwing up a growth. They can be looked at from time to time, and when well rooted they can be removed to the greenhouse.

Plant the Winter Aconite (*Eranthis hyemalis*), Crown Imperials (*Fritillaria imperialis*), terra cotta and yellow. *F. meleagris*, the "Snake's Head Tulip," and its white varieties, and also the Grape Hyacinths (*Muscari*), beautiful free flowering bulbous plants, which take up little room and last well in bloom.

Order bulb catalogues and make out orders as early as possible. A selection will be given of Narcissus, Tulips, &c., in next month's issue. Crocus, Paper-white Narcissus and Tulip bulbs for forcing will be wanted for early potting in September.

## Cannas.

**THESE** handsome greenhouse perennials are amongst the most effective plants for furnishing the greenhouse and conservatory during the summer months. Their handsome foliage harmonises well with the various other greenhouse plants, and their uncommon coloured blossoms, which show up so well, give great effect and last for a considerable time. Their culture is very simple, and with care they may be had in beauty at almost any season. For winter flowering strike healthy suckers in August, and grow them on in small pots to flower in a warm house during winter, when the flowers last much longer than in summer. For flowering in late spring and during summer the rhizomes may be potted in February and March, using pots according to the size of the rhizomes and the specimens required. For general use pots from five inches to seven inches are a suitable size to start the plants in, potting them in a rich compost consisting of two parts loam, one of well-decayed manure or leaf soil and some sharp sand; place them in gentle heat, and be careful with the watering until they have started to grow. In potting, the growing point of the rhizome should be just covered and space allowed for a later top dressing, for the first and best roots start from this point, and it is these that need feeding. The conditions of success in pot culture are to alternate the times of growth and rest, never to overpot, and to use water carefully on newly potted plants. After flowering and when the foliage shows signs of decay, water should be gradually withheld, and during the winter months they may be stored in a potting shed or on a shelf in the greenhouse until the young shoots start again.

The following is a list of suitable varieties for indoor culture:—Varieties with dark foliage—Black Beauty, Bronze Poitevine, Conseiller Heiderick, Duke Ernst, Evolution, Herman Fischer. Varieties with green foliage—Aurea, Director Weber, Hermann Aldinger, Juanita, Jupiter, Victory. M. C.

## The Rock Garden in August.

By R. A. MALBY.

WHEN the sultry days of August arrive we begin to see that the hey-day of the Alpine garden has departed—indeed some people assert that after June there is not much to be seen in the rock garden. This is, I think, a far too sweeping statement, though I quite realise that very many Alpines are early flowering.

Some years ago I set about modifying this falling off after mid-summer, and find that there are many plants which will give us a goodly show far into the autumn.

In hot dry places in sandy soil *Antirrhinum Asarina* spreads its hoary foliage into large masses of greyish green, and from the wiry branches myriads of pale, cream-coloured flowers are produced. This plant begins to flower in May, and goes on almost continuously for months, and is very attractive.

*Potentilla nitida*, too, is a charming late-flowering inhabitant of our gardens, spreading its prostrate silvery foliage over some sun-

baked stones, behind which very poor gritty soil exists, and spangling itself with rose-coloured flowers. I believe the poor character of the soil is a necessity to induce it to blossom freely.

On some fairly moist slope (though not necessarily bog) *Pratia angulata* runs like a carpet over the soil. This sweet little New Zealand *Lobelia* almost hides itself behind its pure white flowers from mid-June onwards, afterwards forming ruddy fruit, somewhat like small gooseberries, which remain till the frost takes the colour out of them.

The larger and greener form, *Pratia arenaria*, also is decorative, though with me it does not fruit and is only just hardy, protected by a glass against undue winter wet. Both seem to prefer moderately moist soil, with some amount of humus in it.

Down in the bog where its roots can reach perpetual moisture, *Lobelia fulgens*, with its crimson foliage and glowing scarlet flowers arranged on a spear-like growth some four feet high, is most imposing, thrusting its way between the leaves of *Saxifraga peltata*, or a carpet of *Mimulus*.

Whenever the seedlings (which come so readily) have been allowed to remain the flower-spangled patches of that lovely little Alpine toadflax, *Linaria alpina*, are very bright with their violet and orange Snapdragon-like blossoms. Except in the moraine, this is an annual with me, but it comes so easily from self-sown seed that it is always present and almost perpetual, as also is the dainty little violet cress, *Lonopsidium acule*. Very frequently, too, the patches of fresh green of *Coronilla iberica* are at this time still bright with the yellow



CANNA J. B. VAN DER SCHOOT.

By permission of *The Garden*

orange, vetch-like flowers which brighten the garden so bright.

The plantain-leaved thistle, *Plantago media*, which is an especial favourite of mine, is a splendid plant for continuous flowering, usually coming out in mid-June, while if the old blossoms are cut off it continues till October. From a cluster of leaves, some four inches or five inches high, rise rigid, erect stems, some fifteen to twenty inches long, each supporting a globe of florets, pink to red in colour. Frequently my plants have from forty to sixty such trusses of flowers



at one time, and very decorative they are, as, emerging from some fissure in the rocky bank, those tall, daintily-poised blossoms catch the slightest breeze.

Perhaps the most showy flower which decorates the garden during August is *Oenothera missouriensis*, one of the prostrate evening Primroses, which form decumbent tufts of greyish green foliage, and rising from these prostrate stems myriads of sessile, long-tubed, rich yellow flowers gleam in the sunlight.

Two other good *Oenotheras* are *O. fruticosa* var. *Youngii*, growing some fifteen inches high, and having rich red buds and yellow flowers, which form a striking contrast with one another, and *O. taraxacifolia* var. *alba*, another trailing species with beautiful pure white, sweetly-scented flowers, opening in the evening and changing to rich pink by the following morning.

## Irish Rose and Floral Society.

THE Irish Rose Society held its Provincial Show in Belfast on July 10th. It was unquestionably a magnificent show. There was keen competition amongst the Irish growers, and although the weather had not been very favourable some fine blooms were staged.

### NURSERYMEN.

Class 1.—Thirty-six blooms, distinct varieties. N.R.S. Jubilee Trophy and Gold Medal.—There were four entries for this class, which carried with it the championship of the year. First Prize was won by Messrs. Hugh Dickson, Belfast, with very fine blooms, some of their best being Coronation (new H. P.), for which they were also awarded the society's medal for the best rose in show; Caroline Testout, Mildred Grant, Leslie Holland, Archie Grey, and Lyon Rose: second prize, Messrs. Alex. Dickson & Sons, Ltd., Newtownards, with good blooms of Caroline Testout, Dean Hole, Bertha Gaulis and Lyon Rose; third prize, Messrs. McGredy & Son, Portadown, who showed amongst their lot a very fine bloom of Margaretta, new seedling.

Class 2.—Seventy-two blooms, distinct varieties.—Messrs. Hugh Dickson, Belfast, carried off first prize; amongst their lot were very fine blooms of Hugh Dickson, Mrs. Foley Hobbs, Lyon Rose, Jonkheer J. L. Mock, Mrs. Sam Ross, and Gloire de Chedane Guinousseau; second prize, Alex. Dickson & Sons, Ltd., Newtownards, showing nice blooms of Horace Vernet, Leslie Holland, Lyon Rose, Helen Keller, and George Dickson.

Class 3.—Twenty-four blooms, distinct varieties, three blooms of each.—First prize was again awarded to Messrs. Hugh Dickson with a very even lot; second prize, Alex. Dickson & Sons, Newtownards.

Class 4.—Thirty-six Roses, distinct varieties, was won by Mr. George Prince, Longworth, Berks; second prize, Messrs. Walsh, Portadown; third prize, F. E. Smith, Belfast.

Class 5.—Sixteen distinct varieties, three blooms of each.—First prize, Mr. George Prince, Longworth, Berks, who showed good blooms of Mrs. John Laing, White Maman Cochet and Bessie Brown; second prize, F. E. Smith, Belfast.

Class 6.—Eighteen Teas, distinct varieties.—Mr. George Prince was again placed first, having fine blooms of White Cochet and Mrs. Ed. Mawley; second prize, Messrs. Hugh Dickson.

Class 7.—Twelve Teas, distinct varieties, was won by Mr. John Mattock of Oxford, who showed good blooms; second prize, Messrs. Walsh, Portadown; third prize, F. E. Smith, Belfast.

Class 8.—Twelve blooms of new Roses, distinct varieties.—First prize, Messrs. Hugh Dickson, Belfast, with huge blooms of Marquis de Ganay, Leslie Holland, King George and Mrs. Richard Draper; second prize,

Messrs. McGredy & Son, Portadown, with grand blooms of Mrs. Maynard Sinton and Juliet; third prize, Messrs. Bentley & Son, Leicester.

Class 9.—Twelve blooms of any new Rose.—First prize was won by Messrs. Hugh Dickson, Belfast, with their "Leslie Holland," which stood out in marked contrast amongst all the paler varieties; second prize, Mr. George Prince, Longworth, Berks; third prize, Messrs. McGredy & Son, Portadown.

Class 10.—Twelve blooms of any H. P. Rose.—First prize, Alex. Dickson & Son, Newtownards; second prize, Messrs. Hugh Dickson, Belfast; third prize, Mr. George Prince, Longworth, Berks.

Class 11.—Twelve blooms of any Rose other than H. P. T. or Noisette.—First prize in this class went to Messrs. Bentley, Leicester, with twelve J. B. Clark; second prize, Messrs. Hugh Dickson, Belfast.

Class 12.—Twelve blooms of any Tea or Noisette.—First prize, Mr. George Prince, Longworth, Berks, with lovely blooms of White Cochet; second prize, Messrs. Alex. Dickson & Sons, Ltd., Newtownards, with good blooms of Mrs. Foley Hobbs; third prize, Messrs. Bentley, Leicester.

Class 13.—Twelve vases of Roses, five blooms in each vase.—First prize, Messrs. McGredy, Portadown, with very fine vases of Edward Mawley, Mrs. David McKee, Lyon Rose, and Dean Hole; second prize, Messrs. Hugh Dickson, Belfast, their best vases being Leslie Holland, Lyon Rose, and Mrs. Law Ross; third prize, Alex. Dickson, Newtownards.

Class 14.—The Kirk Challenge Cup for nine blooms of Roses, Harry Kirk. First prize, Messrs. Hugh Dickson, Belfast; second prize, Messrs. Alex. Dickson & Sons, Newtownards.

Class 15.—Nine baskets of Cut Roses, nine distinct varieties.—This was one of the prettiest sights of the whole Show, and Messrs. Hugh Dickson were ahead with magnificent baskets of Lyon Rose, Richmond, Mdme. Ravary, Mdme. Abel Chatenay, Lady Hillingdon and Lady Pirrie.

Class 16.—Five baskets of Cut Roses, distinct varieties.—First prize, Messrs. McGredy, Portadown, with lovely baskets of Lady Hillingdon, George C. Waud, and Lyon Rose; second prize, Mr. E. J. Hicks, Bucks; third prize, Mr. J. Mattock, Oxford.

Class 17.—Six or more trusses of any new Seedling Rose or distinct Sport, Gold Medal, Silver Gilt Medal, or Card of Commendation.—In this class was seen the finest collection of new Seedling Roses that was ever staged; to say that five gold medals and three silver gilt medals were awarded does not do them justice, as in the opinion of the writer, who has only missed one N. R. S. Show in the last ten years, there were at least four more varieties which should have been awarded gold medals. Alex. Dickson & Sons gained a gold medal for their H. V. Machin, colour scarlet crimson, very large and full of promise as an exhibition rose. Messrs. Hugh Dickson were awarded three gold medals and one silver gilt medal for Mrs. R. D. McClure, salmon pink, immense size and very distinct, gold medal; H. E. Richardson (H. T.), dazzling scarlet crimson, very sweetly perfumed and a very good shape, gold medal; Coronation (H. P.), another lovely pink, larger and much smoother than Her Majesty—a rose we shall often find amongst the exhibition varieties in a few more years, gold medal; Mrs. Jas. Lynas, a very pretty rose, rosy-flesh colour with a tint of salmon-orange, silver gilt medal.

Messrs. Samuel McGredy & Son put up a very fine lot of seedlings, and their Lady Mary Ward was a well-deserving winner of the gold medal, colour deep saffron yellow and copper orange with streaks of crimson. British Queen is one of the purest whites we have, and of such a graceful build. This rose was awarded a silver gilt medal, surely very faint praise for such a beautiful rose. Colleen, another fine rose, a sort of glorified Killarney, silver gilt medal.

Class 20.—Eighteen distinct varieties decorative Roses.—First prize, John Mattock, with nice bunches of Irish Elegance, Simplicity and Edu Meyer; second prize, Hugh Dickson, who showed Mrs. C. E. Allan very fine; third prize, George Prince, Longworth, Berks.

Class 21.—Twelve distinct varieties decorative Roses.—First prize, Rev. J. Pemberton, Romford; second prize, H. V. Machin, Workop.

#### AMATEURS.

Class 22, twenty four blooms, distinct varieties, brought out eight competitors for the Amateur Championship Jubilee Challenge Trophy and Gold Medal. First Prize was awarded to Mr. F. Dennison, Leamington Spa, with a magnificent box of blooms. Some of his best were Mrs. Myles Kennedy (which took the medal for best Tea in the amateur section), Mrs. John Laing and J. B. Clark; second prize, W. Boyes, Driffield, who had good blooms of Mme. Jules Gravereaux, Lyon Rose, Gladys Harkness, and Mrs. Foley Hobbs; third prize, Mr. Welch, Londonderry.

Class 23.—Thirty-six blooms, distinct varieties.—First prize, Rev. J. Pemberton, Romford, Essex; second prize, H. V. Machin; third prize, Wm. Boyes.

Class 24.—Eight distinct varieties, three blooms of each.—First prize, Mr. F. Dennison; second prize, Mr. H. V. Machin; third prize, Mrs. Dunlop.

Class 25.—Nine Blooms of any Rose except Tea or Noisette.—First prize awarded to Dr. J. Campbell Hall, for a lovely lot of Duchess of Portland; second prize, Mr. H. V. Machin; third prize, Mr. F. Dennison, with Frau Karl Druschki.

Class 26.—Eighteen blooms, distinct varieties.—First prize, Mrs. Dunlop, Holywood; second prize, Mr. R. Thompson, Ballynahinch.

Class 27.—Six distinct varieties, three blooms of each.—First prize, Mrs. G. H. Brown, Helens Bay.

Class 28.—Six blooms of any Rose except Tea or Noisette.—First prize, Mrs. G. H. Brown, Helens Bay.

Class 29.—Twelve blooms, distinct varieties.—First prize, Mr. Fred Harrison, Ulverston; second prize, J. F. Crozier, Stillorgan, Co. Dublin; third prize, Henry Balfour, Oxford.

Class 30.—Nine blooms, distinct varieties.—First prize, Colonel Crawford, Crawfordsburn.

Class 31.—Nine blooms, distinct varieties.—First prize, Mr. Upton, Leicester; second prize, W. J. Richardson, Dunmurry; third prize, R. Thompson, Ballynahinch.

Class 32.—Six blooms, distinct varieties.—First prize, Mr. Welch, Londonderry; second prize, E. Godfrey Brown, Penrith; third prize, J. A. Stewart.

Class 33.—Four distinct varieties, three blooms of each.—First prize, Mr. Upton, Leicester; second prize, Mr. Whittle, Leicester; third prize, Mr. Stewart.

Class 34.—Six blooms of any Rose except Tea or Noisette.—In this class there were twelve competitors, and great credit is due to Mr. J. H. Welch, Londonderry, who carried off first prize with fine blooms of Frau Karl Druschki; second prize, Mr. Crozier, Stillorgan, Co. Dublin; third prize, Mr. F. Harrison.

Class 35.—Six blooms of New Roses, distinct varieties.—First prize, Mr. Boyes, Driffield; second prize, Rev. J. Pemberton, Romford; third prize, J. E. Turner, Gourcock.

Class 36.—Twelve blooms, distinct varieties. First prize, Mr. J. F. Crozier, Stillorgan, Co. Dublin.

Class 37.—Nine blooms of any one variety.—First prize, Mr. H. V. Machin; second prize, Mr. F. Dennison.

Class 38.—Nine blooms, distinct varieties.—First prize, Mr. Boyes; second prize, Mr. Whittle.

Class 39.—Six blooms, distinct varieties.—First prize, Mr. Upton; second prize, Mr. Harrison; third prize, Mrs. H. Balfour.

Class 41.—Six blooms of any one variety.—First prize, Mr. Upton; second prize, Mr. Harrison; third prize, Mr. Whittle.

Class 42.—Twelve distinct varieties decorative Roses. First prize, Rev. J. Pemberton; second prize, Mr. H. V. Machin; third prize, Mr. Craig, Tyralde.

Class 43.—Six distinct varieties decorative Roses.—First prize, Mr. F. A. George; second prize, Col. Crawford; third prize, Mr. W. J. Richardson.

Class 45.—A Bowl of Cut Roses.—First prize, Mrs. Burnett, Southampton; second prize, Mrs. Williamson, Canterbury; third prize, Mrs. Atkinson, Belfast.

Class 46.—Vase of Cut Roses.—First prize, Mrs. Williamson, Canterbury; second prize, Miss P. Johnstone, Greenisland, who staged Lyon Rose; third prize, Mrs. J. Stewart, Marine, Co. Down.

Class 47.—Basket of Cut Roses.—First prize, Mrs. Burnett, Southampton, with a lovely lot of Irish Elegance; second prize, Mrs. R. J. Porter, Greenisland, with a basket of Caroline Testout. W. S.

## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.



AUGUST is, perhaps, the gayest month of the year in the flower garden, so many of the stately herbaceous plants are then at their best. Autumn Clematis, Dahlias, Hollyhocks, Tritomas, and Roses, especially the Hybrid Teas, which have been liberally treated after their first bloom, will again be very gay. Sweet Pea, sown at the end of May or early in June, will now be in full bloom.

Bedding plants of sorts will have filled their allotted spaces, and will now be bright with flowers, so that the result of our labours in the early summer can now be realised.

All the rampant summer flowering Roses should now be attended to. Cut out the old shoots and remove all the weaker sprays which have flowered. By doing so the strong new growths are encouraged to develop, and can be laid in, exposed to the light, where they will mature for next summer's display. Look over borders, remove all decayed bloom, and secure any tall plant likely to be injured by heavy rain or storm. Continue to trim edges of beds and walks, mow grass, clean and roll gravel paths and roads, so that a tidy appearance is maintained. Box edgings and hedges can now be clipped. Where shrubs are encroaching on each other or overhanging

walks, a judicious thinning should be given, so that air and light is not excluded from any side of the specimen plants. By the end of the month cuttings of any shrub can be inserted to make root cuttings, in light, or bell glass, and placed in a cool place.

Seeds of many plants can now be sown, and some are best sown directly they are received. Cuttings of the usual summer bedding plants should now be put in for next year's supply. Geraniums will root freely in the open, where they can remain until stored before frost sets in. Cuttings of Heliotropis, Verbenas, Fuchsias, &c., should have slight bottom heat to induce them to form roots.



Carnations should now be layered, if not already done. Pansies, Daisies, Wallflowers, Polyanthus, &c., raised from seed, should now be planted in nursery lines. If carefully watered and the ground is kept clean they will be ready for their permanent quarters in October.

## The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath, Killruddery, Bray.

**HARDY FRUIT DEPARTMENT.**—During the early part of August very careful attention must be given to the stopping, pruning and thinning out of superabundant shoots of all kinds of fruit trees, and in the case of apples, pears, and plums the work ought to be done gradually. Commencing at the top of the tree and tying out all leaders that are needed, and stopping the laterals at the second or third leaf from the base of the shoots, going all round the garden with the top half of your trees first. Then after a few days go back and finish the lower part, also take off badly-formed or superfluous fruit. If troubled with mildew, syringe after 3.30 p.m. with some weak fungicide. Borders, especially those well drained, should be examined, and if too dry must be watered. In case of a heavy crop some liquid manure, properly mixed, will greatly assist them in swelling and finishing off their fruit.

**RED CURRANTS.**—Very often these are badly pruned and much too thick. When such is the case it is an excellent plan to go over them, shorten and thin out some of the centre current year's growth, to let in both light and air and netting them for protection from birds. If this plan is tried you will be surprised at the improvement in the currants, and do not forget to cut away the low shoots instead of allowing them to lie on the ground, giving cover for rats, birds, &c.

**LOGANBERRY.**—In most cases this delightful preserving fruit will now be finished for the year. To my mind, if you mix it with some red currants it will make better jam than that favourite fruit, the raspberry, and I also strongly advise any one with a garden to give it a trial, but be sure you plant them thinly and prune them immediately after the fruiting season, tying in the young shoots required for the following year without delay. Loganberry and raspberry fruits mixed together make a very nice preserve.

**JAPANESE WINEBERRY.**—I now take this opportunity of bringing the above plant under your notice, because it seems such a pity that it is so little grown. When the public are allowed in these gardens many visitors are struck with the ornamental look of this plant, which is trained up to wires much the same as the raspberry, but very few people know anything about it. From a commercial view perhaps it is not so useful as the loganberry, though very much prettier. The fruit, which is carried in clusters, is juicy and of a good flavour, and is almost scarlet in colour. It comes into use when the loganberry and raspberry are over, and on that account, if for nothing else, is highly appreciated.

**GRAPES.** Keep vineries well ventilated and the vines clean and healthy. Ripe grapes will not require much water, and the atmosphere should be kept dry. In houses where the bunches are all cut the laterals may be shortened and the vines thoroughly washed with water from hose-engine or syringe. Keep wasps out of the vineries with ripe grapes by covering the ventilators with Hexagon wasp netting.

The same material may be also used for protecting ripe Morello cherries and other small fruit on the outside walls.

## The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor, Co. Kildare.

**WORK** in the vegetable garden will now be getting slack compared with the past few months, yet as we often get dry, warm weather in this month neglect in the watering of peas, beans, celery, and marrows will soon be seen. If the main crop of vegetables has been mulched less water will be required, ever remembering that one good watering is worth a thousand small ones, as the latter often does more harm than good, for with deep cultivation which is necessary to grow good produce the roots of the various crops go deep down in the soil.

**BROCCOLI.**—Plant out without delay if not already done all the late broccoli, selecting firm ground, and give plenty of room between the plants so that they will be sturdy and firm to withstand the winter's frost and hardship. Model, April Queen and June Monarch are all good kinds for late work, coming in at a season when vegetables are often scarce—viz., April, May and June. When planting, select stout, well rooted plants; if they have been transplanted no difficulty should be had in getting good plants.

**CABBAGE.**—Spring cabbage, if obtained early, is always appreciated, and is one of the most important crops grown in the garden. If seed has not been sown, as advised last month, make a sowing on a warm sheltered border of any of the three varieties recommended in last month's issue of IRISH GARDENING. If the ground is in good condition, the soil being moist from the recent rains, germination will soon take place, and growth will be very fast, so that the biggest plants can be planted out as fit from the middle to the end of September. Cover the seed beds with a net to protect from birds, which very often do much harm.

**TURNIPS.**—Make another sowing of Orange Jelly or Blackstone turnips, as these often turn in most useful for spring use, remaining in the ground all the winter, and being pulled and stored before starting to run to seed in the spring.

**LETTUCE.**—About the second week of the month make a sowing of lettuce seeds to raise plants to stand the winter, putting out the strongest plants in September, on a warm, dry sheltered border, the smaller plants remaining in the seed beds till spring, and then being planted out. Hardy Green Hammersmith, Stanstead Park, and Winter Pearl are all good hardy varieties for sowing at this season of the year, and stand the hard winter much better than All the Year Round. Iceberg, Sutton's Ideal, and Continuity are all grand summer lettuces.

**ONIONS.**—The seeds must be sown this month of Tripoli and other varieties of onions, and these often bulb better than those sown last month, not running to seed so much, so that two sowings of this most useful vegetable—not nearly enough grown by cottagers—is recommended, selecting the varieties which were named last month. When young onions are required in spring for pulling, select a quick-growing sort like White Lisbon, which is generally grown.

**SPINACH.**—Make a sowing of spinach in deeply-dug and heavily-manured ground. Before sowing the seed give a good dressing of wood ashes if it can be procured, if not apply four ounces per square yard of sulphate of potash, and rake in. Victoria Round spinach is equally as hardy as the old prickly variety, and has much larger leaves.

**CAULIFLOWER.**—Towards the middle and end of the month make two sowings of cauliflower seed on a warm border. The plants can be transplanted in September to frames to keep through the winter. Like cabbage, lettuce and turnip seed, be sure and protect from the birds by means of nets.



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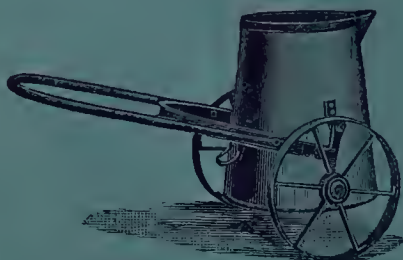
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## Narcissi

NARCISSI, or Daffodils as they are commonly called, have been grown in gardens as far back as there are records of garden plants, but never at any period of their history have they been cultivated with more intelligence and enthusiasm than at present. The area devoted to the cultivation of this bulb in Great Britain and Ireland is annually being extended, while the number of blooms that are offered for sale in our markets from January to May would almost baffle the skill of a statistician. The R.H.S. of England have a special committee to look after the Narcissus in conjunction with the Tulip; the only other flower which is taken specially under the fostering wing of the premier horticultural society is the Orchid, so the Narcissus may feel proud of being bracketed with an aristocrat like the Orchid, although I am not prepared to admit that the honour is all on the side of the Narcissus, as some of the newer forms rival the Orchid in brilliancy of colour and grace of form.

During the past twenty or twenty-five years great improvements have been effected in this family by hybridization, and every year new varieties are being sent out, some of them of considerable merit, while others have really nothing to recommend them beyond the skill of their raisers in dressing—or rather faking—them, and placing them before an unsuspecting public.

Generally speaking, the Narcissus is an easy plant to cultivate, but there are a few outstanding exceptions, notably in the *ajax* section, which makes it impossible to dogmatize, and say do this or don't do that, but, most of the varieties like a fairly rich friable loam, and respond to deep cultivation. On no account however should the ground be treated

to an application of fresh farmyard manure before planting. Some growers use bonemeal and basic slag, but not having tried either, I can't write of their effect. I believe, however, that the best flowers and bulbs will be got on ground that was liberally treated with farmyard manure, *plus* a complete artificial fertilizer, composed of superphosphate, ammonia and potash for the previous crop.

The bulbs have a very short period of rest, particularly those with poeticus blood in them, so they should be kept out of the ground as short a time as possible. Some experts give August 20th as the latest date by which choice Daffodil bulbs should be in the ground, but if planted by the second week in September, excellent results will be obtained. The bad effect of late planting is more manifest the second season than the first; with the curtailed season of growth the bulb suffers, the result being that the foliage and flower stalk are shorter, and the increase not nearly so good, which is a very important matter, particularly with expensive sorts. In the selection of varieties a good deal depends on the purpose for which they are wanted. If for exhibition flowers of good size, form, substance, and colour are essential, while for decoration, lighter and thinner, or what might be called wingy flowers are more effective. Likewise for hybridizing, sure seeders and potent pollen sorts only should be stocked. Then, again, some varieties that are strong and vigorous, and in every way excellent garden plants, will not force or come so weak when subjected to heat, as to be practically worthless. To give a concrete example of what is meant, I may say that I am frequently asked the difference between two very-much-alike old standard varieties viz., *Empress* and *Horsfieldii*. My

answer is always emphatic, that the varieties are very distinct in every way. The flowers are so distinct that an experienced person can easily pick an Empress from a Horsfieldii bed, and *vice-versa*. The perianth of Horsfieldii, is purer in colour and fuller than Empress, although I once heard one of the largest growers in

Ireland describe the two varieties as "having flowers identical, but different plants," and certainly in the plants the difference is very pronounced. The foliage of Empress is longer and stronger, the bulb larger and of a different colour, Empress being of that brownish colour, that pleases the eye of the Daffodil expert, while Horsfieldii has a pale almost straw-coloured bulb, but the most important difference of all is that Empress

forces splendidly, while Horsfieldii comes so weak when grown in heat as to be practically worthless. With the introduction of so many new varieties it is getting more difficult every year to make a selection of what might be called, with any degree of confidence, the best, but in the following list only those are included that have been thoroughly tested and have proved to be good, vigorous plants as well as beautiful flowers;—Acme is still an unique flower borne

on a long stem, broad white petals and brilliant dead-scarlet eye, which quickly scorches in the sun, therefore to get this beautiful flower in perfection it should be cut as the flower expands and opened in water. This, like most other highly coloured flowers, loses much of its colour when forced.



Photo by J

[Lissardell]

MRS. R. SVEDHAM.  
A beautiful White Trumpet Daffodil.

Dolly (see photo) is one of the most perfect flowers of its type. The flower has a large, flat cup, suffused orange red and beautifully fimbriated, and a large, full white perianth, with round segments. This fine variety is still expensive, but is a very good grower, and increases freely, so should soon be offered at a reasonable price.

Incognita, although not by any means now a novelty, is still one of the best.

It has a large white perianth, and flat cup of an orange, apricot colour and bull margin.

King Alfred, another variety that has been in commerce for some time, but still without a rival as a yellow trumpet, and is almost too well-known to call for description. In some parts of England it is said to be a bad doer, but I have never heard of anyone having trouble with it in Ireland.



Lady Margaret Boscawen is a magnificent flower of the *Incomparabilis* section, with pure white perianth and large golden cup. This is a most vigorous plant, and makes a fine show either in the garden or in pots.

Lord Muncester is a very fine novelty with very large, pale golden-yellow trumpet and full, overlapping perianth of a paler shade, of good form, great size and substance. It is a very vigorous and floriferous plant.

Matthew Arnold is a good and distinct poeticus, not large, but very full and round. The eye has a red rim.

Mrs. Percy Foster is an exquisite flower with pure white perianth of great substance and expanded golden cup margined orange.

Mrs. Robert Sydenham (see photo) I would place not only as the best white-trumpet Daffodil in commerce, but as one of the best of all Daffodils. It is not very large but very refined, a strong grower and very floriferous.

Selina Malone, as a soft-coloured, bicolor

trumpet, will be very hard to beat. It has a large Primrose trumpet and good flat, white perianth, making a very symmetrical flower.

White Queen is one of the older giant *Leedsii* varieties, but still one of the best. The large cup is of a citron colour when newly opened, but soon turns pure white. The perianth is full and pure, the whole flower reminding one of a *Eucharis*.

W. B. Hartland, named after the veteran raiser, is a bold, early-flowering, bicolor trumpet of *Horsfieldii* colour, but much larger in all its parts.

The above dozen are about the best of the newer varieties, some of which are still very expensive however. I append here with another dozen first-class varie-



Photo by

"DOLLY."

A good and new variety of *Narcissus Engleheartii*.

ties that can be purchased in most cases for less than the modest shilling:—

Albatross, Argent, Cassandra, Golden Bell, Gloria Mundi, Glory of Leiden, Homer, Horace, Lucifer, Madame de Graaff, Oriflamme, and White Lady.

## Exhibition Onions.

By D. McINROSH, Danum Gardens, Rathgar.

**I**N the production of specimen onions for exhibition no one of experience will deny that a great amount of care and attention must be given to their cultivation to obtain the very best results. At all exhibitions, where vegetables are shown to some extent, they now form one of the principal attractions, and rightly so, because of their popularity and usefulness as a vegetable, with all classes of the community. Some people are under the impression that these large bulbs are only of service for show purposes, but that is a mistaken idea, for there are no finer onions for kitchen use. Large consignments of these bulbs are imported annually into this country, but their quality and flavour cannot compare with well-grown home-produced specimens. To obtain these large onions, deep cultivation is one of the most important points to be considered. The site should be selected in the autumn, but whether it is trenched then or early spring will depend upon the character of the soil. If it is light, it should be done in the autumn, and a good supply of well-decayed farmyard manure, burnt garden refuse, and any other good material be liberally worked in. Should the soil be of a heavy nature, fork the surface up in the autumn, but leave the trenching till February, and then, if possible, accomplish the work in fine weather. While the trenching is in operation no attempt should be made to fine down the surface, but leave the top in as rough and lumpy a condition as possible, so that it may be subjected to the sweetening and pulverising influences of the weather. When the work is completed, a good coating of soot should be applied, and should the land be deficient in lime, add this material also. Early in April the whole of the surface should be neatly forked over, and another good dressing of soot and some good vegetable fertilizer be given. The seed sowing is another important point in raising young plants for exhibition. A good start is not everything, but often it means a great deal. The first week in January is a good time to sow the seed in well-drained pans or boxes. Place some good fibrous soil over the drainage to keep it in position. A suitable compost for

seed sowing should consist of two parts fibrous loam, one part leaf soil, and one part mushroom bed manure to which should be added sufficient river sand to keep it open. Fill the boxes to within half an inch of the top, and see that the soil is made very firm. Sow the seeds thinly half an inch apart all over the surface, selecting only the large and plump seeds. Cover the seeds lightly, and again press down the soil firmly. Give a good watering and place the boxes in a gentle heat. As soon as the young plants appear means must be found to place them quite near the glass so that they may receive all the light possible. When the seedlings are about one and a half inches high prick out into other boxes, using a slightly rougher mixture of a similar compost, but adding a six-inch potful of bonemeal to every bushel of soil. Again, make the soil very firm in the boxes and prick out the young plants three inches apart each way. Well water in and place the boxes near the glass where a temperature ranges from 55° to 60°. Frequent light syringings during the day are very beneficial at this period of growth. As soon as the plants show signs of rooting freely they should be removed to a more airy position. If all has gone well, the next business will be their removal to a cold frame, say about the third week in March. Gradually harden them off, removing the lights entirely whenever the weather is suitable. If, owing to the weather or any other cause, planting has to be deferred, give a little weak liquid manure to keep them healthy and prevent any check to growth. Generally speaking, the middle of April is a good time to plant out. Lift the plants from the boxes with a garden trowel, taking care to retain a good ball of soil so that the roots may be but little disturbed. Plant firmly in rows eighteen inches apart and one foot from plant to plant. Stir the surface soil lightly with a Dutch hoe, and if dry weather prevails let a thorough good watering be given. Damp over the young plants two or three times a day, which will prove of great assistance in enabling them to become quickly established. It is always wise to keep in reserve a few plants to make good any failures. It will not be long before a few of the most promising bulbs are noted. At this stage copious supplies of farmyard liquid manure must be given, and they are best given during the evening. When the finest bulbs

have attained a good size and are well finished specimens, partially lift them with a hand fork so that the ripening process may be hastened. About the beginning of September is quite long enough to allow them to remain in the ground, for if left longer many of the best will in all probability split or become discoloured. One often hears that these specimens do not keep well, but this failure is generally due to the careless way in which the onions are handled. Lay them out in the open, exposed to sun and air, turning them over at intervals of a few days. If bad weather prevails finish the ripening process under glass. The rough outside skin should be removed, so that when the work is completed only one smooth skin of a nutty-hazel brown appearance is noticeable, while the necks should be tied down neatly and made to

look as small as possible. With regard to varieties, Ailsa Craig is, undoubtedly, the best onion for exhibition purposes. The true specimen should be deep, almost oval and without any tinge of red in it. When staging for competition every bulb should be arranged so as to stand quite clear of its neighbour, and every endeavour should be made to have each bulb as nearly alike as possible.

## The Propagation of Shrubs.

**I**N nurseries and large gardens where big quantities are required this work is going on more or less constantly throughout the year in one way or another. The amateur and private gardener, however, who have many

interests to look after besides have usually perforce to confine themselves to certain times for the various operations connected with the management of their gardens.

September is a very good month to take cuttings of many shrubs. Then the wood is well ripened, but the leaves are still retained and help to support the cutting while the process of "calusing" is going on.

Soil for cuttings should be light and porous, consisting of about equal parts of loam and sand, with a little leaf-mould added. The amount of

sand and leaf mould necessary varies according to the quality of the loam. Heavy stiff loam will require more sand, and light sandy loam should have rather more leaf-mould.

Cuttings taken now may be from four to six inches long. The amateur will find it an advantage to remove each cutting with a "heel"—that is, it should be gently pulled off the parent shoot, when a portion of the older



E.B.

*Photo by]*

*[Edmondson Ltd.]*

AILS CRAIG ONION.



wood will come with it, forming the so-called "heel." This should be neatly pared down till only a small, thin piece remains attached to the cutting. Many cuttings root readily without this precaution, but the young propagator will learn more by experience than by any amount of reading.

*Position for the Cuttings.*—A half-shady site away from strong sunlight is preferable, as then the trouble of shading is obviated, as well as frequent watering, which in this climate is disastrous. A shallow frame which can be kept close and free from draughts forms a first-rate place in which to insert the cuttings. A few inches of rough material placed in the bottom will ensure drainage. Over this three inches of the compost should be evenly laid and made firm. The distance apart to put in the cuttings will vary according to their size, but for many kinds three inches will be sufficient, and less will suffice if the cuttings are very short with small leaves. Pots, of various dimensions, are also quite suitable for cuttings, using plenty of drainage and Bell glasses. Cap glasses and Cloches are exceedingly handy and even better than a frame. In the latter three cases a bed of suitable soil may be made up in any shady position, and on this the covers may be placed. First press the Bell glass or other cover firmly into the soil and then remove it; an impression corresponding to the size of the cover will thus be made, and the cuttings may be inserted within this mark, keeping about an inch inside of it. A good watering will settle the soil about the cuttings, after which the covers may be put on. All cuttings should be well watered when put in, after which, at this time of the year, no more should be wanted till roots are formed, which in some cases will be in three or four weeks, in other cases longer. During fine weather in autumn the covers should be raised every morning for half-an-hour or so to allow moisture which collects on the glass to dry away. All leaves which damp off or show signs of decay should be regularly removed and the surface of the soil kept loose and free from green scum, otherwise the cuttings are apt to damp off at the surface of the soil. Each time the cuttings are watered it should be done thoroughly. Frequently cuttings damp off, the surface of the soil is black and wet, but on examining the soil below it is found quite dry. This is due to

applying frequent dribblets of water instead of giving sufficient to reach the base of the cuttings. During frosty weather in winter it is well to protect the cuttings from alternate freezing and thawing, which loosens the soil and may kill young roots.

A great many different kinds of shrubs may be propagated now. The following list is only intended as a guide to amateurs:—Barberries, Deutzias, Buddleias, Cistuses, Cotoneasters, Diervillas, Escallonias, Euonymuses, Forsythias, hardy Fuchsias, Hypericums, Ivy, Jessamine, Privet, Honeysuckle, Lavender, Myrtle, Philadelphus, Rosemary, &c.

In putting in the cuttings, evergreen kinds and those which will subsequently drop their leaves should be put in separate lines.

## Lilium myriophyllum

(OF WILSON).

By A. GROVE, Author of "Lilies."

WHATEVER may be the identity of this beautiful Lily—and it is certainly not *myriophyllum* of Delavay—all who have had anything to do with it will agree that it is a most satisfactory plant. Whether like *L. Henryi*, another Chinese lily of robust growth, *myriophyllum* may tire in some gardens after a time and gradually die out, remains to be seen, but for the present one can hardly say enough in favour of it.

As far as the writer is aware the small stock at present in Great Britain is made up of wild bulbs collected in China—a possible reason for the scandalously exorbitant prices charged for them by dealers; but as this lily seeds freely, and the seed germinates quickly, it can hardly be many years before there is an ample supply of bulbs to go round.

No doubt seedlings raised at home will show as much variation as do the wild plants, and it is to be hoped they may furnish some clue to the relationship between *L. myriophyllum* and other Western Chinese Lilies seemingly akin to it.

Originally collected by Wilson in the Chino-Thibetan frontier region, that happy hunting ground of the modern collector, which has been despoiled of so many good things for our gardens, and so much that is uninteresting, *L. myriophyllum* has a bulb which, judging by the specimens sent home, is not to be distinguished

from that of *L. sulphureum*. Though often referred to the *Brownii* section, *myriophyllum* does not appear to have anything in common with that wonderful Lily—bulb, stem, foliage and flower being entirely distinct—and it seems more nearly related to Wilson's *L. leucanthum*—now known as *L. Sargentii*—than to *L. Brownii*.

That Lilies grow best in gardens under certain conditions is known to all gardeners, and in the case of the Lily under notice the most suitable conditions seem to be a free sandy loam overlaid by a mulch of humus.

As far as one's experience goes it does not seem to matter whether lime is present in the soil or not, and only time can show whether in common with one or two other Chinese Lilies, *myriophyllum* will slowly but surely deteriorate in soils absolutely free from lime.

*L. myriophyllum* forces well, though, naturally enough, inclined to lose colour a little in the process.

If planted in full sun the blooms blanch more quickly than when given a little shade, and of course do not last so long, but it is possible the plant might suffer in wet and sunless seasons if grown in shade, so the gardener will be well advised to keep his plants in full exposure, at any rate till the bulbs have been cheapened sufficiently in price to allow the ordinary mortal to experiment with them in different aspects.

The absence of really hard weather during the few winters the bulbs have been in the ground with us precludes any definite verdict

as to the hardiness of the plant, but it is comforting to know that the lily is reported from the United States as quite tough.

The wet winter rains of the British climate are responsible for the disappearance of a good many bulbs, and it is not every Lily which can successfully stand the alternate thawing and freezing to which our gardens are subjected in an average winter. Let us hope this new Lily may successfully battle with both these destructive influences.

Sufficient time has not yet elapsed since the introduction of this Lily to gardens to enable a

just estimate to be formed of its ultimate capabilities, but plants which last season grew three and a-half feet high and had three flowers have this year added another foot to their growth and a couple of flowers to the beautiful head, while one hears of plants six feet high. If the Lily goes on at



*Photo by*

*[W. A. Malby]*

#### LILIUM MYRIOPHYLLUM

Flowers white, suffused with yellow towards the centre.

Exhibited by Messrs. Wallace at the International Show.

this rate we shall soon have something quite as fine as well-grown specimens of *L. auratum macranthum*, and seemingly a great deal easier to manage.



#### THE LILY.

Observe the rising lily's snowy grace,  
Observe the various vegetable race :  
They neither toil nor spin, but care less grow ;  
Yet see how warm they blush ! how bright they glow !  
What regal vestments can with them compare ?  
What king so shining ? or what queen so fair ?

*James Thompson.*

## The Rock Garden in September.

By R. A. MAIRY.

WITH the chilly and dewy nights which accompany September we see the hand of autumn stealthily creeping over the Alpine garden and changing the once fresh greens into soft shades of brown and russet.

The once bright green fronds of the *Osmunda regalis* are now passing to a gentle cinnamon, and before long they will assume so rich a colouring as to be quite an attractive feature in the garden.

Despite all our efforts to furnish the Alpine garden at this time of the year, it is impossible to prevent the impression that the season is rapidly approaching its end, though with care a considerable decorative effect can be obtained by the employment of clumps of *Sedum Sieboldii*, that late flowering stone crop from Japan with its thick, coppery-coloured leaves and terminal trusses of soft pink flowers, while contrasting with this is *Sedum turkestanicum*, a native of Siberia, of greener foliage and deeper coloured blossoms. Both these plants are beautiful late autumn subjects, and thrive apace in gritty soil in any hot situation. The snails are the chief enemy of the *S. Sieboldii*, appearing to find its succulent leaves very appetising.

In some shady or half-shady place in moderately moist soil *Saxifraga Fortunei*, that lovely Sax. from China, is now throwing up its flower spike—somewhat after *S. Cotyledon pyramidalis* in shape—but with flowers composed of three short and two long petals, such as *Sax. sarmientosa* possesses. Not only is this a very welcome Sax. coming so late in the year, but it is a very beautiful one; indeed, the luscious, shining, green leaves would alone justify us in growing it. The only disadvantage it has, is that the flowers sometimes get cut by an early frost.

Of the bulbous plants which have been resting beneath the surface all the summer we now have a number in blossom, or about to favour us with their lovely delicately-tinted flowers.

Most imposing of all, perhaps, is *Colchicum speciosum* with its large, rosy purple flowers rising leafless from some carpet of *Sedum* or other low-growing plant, which will prevent the soil from being splashed on to the lovely goblet-like flowers by the rain.

Even more floriferous, though to my mind less beautiful in form, is *Colch. byzantinum*, while our native *Colch. autumnale*, like a large *Crocus*, gladdens us from many an odd corner. All of the foregoing thrive well in sandy loam and leaf-mould, where their roots can reach a moderately moist medium during the growing season.

At this time, too, *Eryngium giganteum* is often at its best. This, a native of Armenia, when raised from seed (and with me this has hitherto been a necessity, as it proves itself a biennial here), grows from a central growth into a glorious candelabra-like shape, and when mature takes on a cold, shimmering, grey colour, which contrasts delightfully with the more ruddy hues now so prevalent in the garden. As with the other *Eryngiums* or Sea Hollies the flower heads themselves are somewhat teasel-like, and the florets rather inconspicuous.

It makes a particularly handsome subject for some subsidiary knoll in the Alpine garden some little distance from the eye, and preferably backed by some dark green or ruddy growths.

Of the autumn-flowering *Croci* we now have *C. zonatus*, of soft colouring, very dainty and choice, when so many of the tones in the garden at the moment are vigorous, while most showy of all, reliable in constitution, and coming year after year to gladden us with its beautiful bluish, violet flowers, veined with rich purple, is *Crocus speciosus* from Asia Minor.

This species is especially attractive on account of the much branched, rich orange-coloured stigmas which protrude from the floral envelopes, making such a striking contrast with the purple shade of the latter.

Not infrequently the leaves appear with, or soon after, the flowers, though they do not develop fully until the spring.

No special compost seems needful for these *Croci*, the ordinary well drained gritty soil of the rock garden appearing to suit them well.

With such welcome visitors as these I have mentioned (and others equally attractive), it is possible to obtain a very large amount of pleasure from our Alpine garden even in September.

## Hints to Amateurs.

By R. M. POLLOCK.

**GREENHOUSE.**—Azaleas, Camellias, Genistas, Prunus, Acacias, and any shrubs which were stood out during the summer, may now be brought back into the house and stood in their permanent winter quarters. Re-pot where necessary, or if potting is not required, loosen the surface soil and give a light dressing of fresh soil.

Arum Lilies and Salvias which were planted out during the summer must now be lifted and potted up. See that the Arums do not want for water once growth begins. Remember that the Arum Lily grown at home in our greenhouses, and so largely used for decorative purposes, is a native of South Africa, where it is found growing in quantities in the rich, moist mud beside the streams. Primulas, Cinerarias, and Geraniums for winter display in the houses may now get their final potting. Care must be taken when handling these, as the leaves of Cinerarias and Primulas are very brittle and break off easily; be careful also with the watering, as Primulas especially are apt to damp off at the neck if kept too moist.

Another batch of Freesias, Hyacinths, Paper Whites, and the Tulips and Narcissi should now be potted up. Lists of the two latter will be found at the end of these hints. The Tulips and Hyacinths must be plunged as directed in the August number.

**THE GARDEN.**—Where Dahlias are grown in dry soil, they will want frequent doses of liquid manure if large flowers are looked for. Also the shoots must be thinned out so as to prevent overcrowding. The weak shoots that appear from the base are the best to cut away, as they seldom come to any real good. Earwigs, too, will become troublesome, and should be trapped.



Collect all leaves as they fall, and place in a heap. In time these will decay and form splendid mould for use in the garden. Violets may be lifted and placed in a frame for winter flowering, or an alternative method, if the plants are already in a suitable sunny spot, the frame may be brought to them, this, where possible, will save a good deal of time. Whichever is done see that the plants are close to the glass, not sunk down as is often done. They will want all the light and sunshine they can get during the dark months to come.

**BEDDING PLANTS.** Cuttings of the principal ones, Geraniums and Calceolarias, may be taken. The former are best put straight into boxes and put in a cold frame, preparatory to going into a frost-proof house or frame for the winter. Some people root these singly in pots, or several in a pot, but boxes are cheaper; they can also very often be "made up" on the premises, and they are certainly less easily damaged. The Calceolarias may also be rooted in boxes, or, better still, if there is a vacant frame, make this up, and dibble the cuttings into it. These rot off

very quickly if they get any way damp, so water sparingly and give plenty of air on dry days.

Towards the end of the month Antirrhinums (Snapdragons), Annual Delphiniums, Candytufts, Clarkias, and other strong-growing annuals may be sown for planting out next spring. Sow these in a box or pan and put into a cold frame. When treated thus and pricked off when large enough to handle, they make stronger and better plants, and the difference in autumn and spring-sown annuals is very great. The difficulty, of course, arises in the question of space, as they must get protection from frost during the winter.

Biennials and perennials which were sown during the summer, such as Wallflowers, Canterbury Bells, Polyanthuses, Sweet Williams, Aquilegias, and Iceland Poppies, may all be planted out in prepared ground, where they may either be left to flower or left only until their permanent quarters are ready for them.

**ROSES.**—Get the new catalogues as soon as possible, and look up any notes made at shows or notes taken

in friends' gardens of varieties wanted, and order early. Rose growers adopt the principle of "first come first served," so the sooner the orders are in the better. Don't wait until you think its time to lift the plants. They know better. Additions can always be made to an order if something very choice has been omitted.

**FRUIT.**—The wall fruit will now be ripening, some will already have been gathered. All fruit on which there is a "bloom" should be very carefully handled; this especially applies to plums out of doors and grapes indoors. A glossy, shiny plum is not nearly as enticing as the same plum with its "bloom" intact. Usually the appearance of the fruit will show whether it is fit to

pull or not. If birds are attacking the fruit, where possible the trees should be netted, but wasps and blue bottles will be found really more destructive than the birds to wall fruit, and they are very difficult to cope with. When found, the immediate destruction of all wasps' nests should be seen to. Perhaps some reader knows of a cheap and efficient method of trapping these.

**R U I B S.**—

Plant now Tulips, all sorts, Narcissus (Daffodils), Snowdrops, Chinodoxas (Glory of the Snow), Scillas, and any other spring flowering bulbous plants, including the English Irises and Spanish Irises, Erythroniums (Dog's-tooth and Violet), Ranunculus, Turban and Persian, and the various beautiful species of Anemones, including *Anemone fulgens*, the Scarlet Windflower. Spanish Irises might well be given more attention than they now get—they are very cheap, they last well both growing and in water, and they also take up little space in the garden.

The following is a list of Narcissus suitable for pot work. None of these are expensive and all are known to be good for growing in pots, and they can also be used for growing in fibre. *N. obvallaris*, the first on the list, will force very early, and can be had in flower at Christmas time.

*Narcissus obvallaris*, Emperor, Empress, Horsfieldii, *Telamonius plenus* (the double Daffodil), Sir Watkin, *Barrii conspicuus*, General Murray, Mrs. Langtry,



Photo by]

[R. A. Malby

**COLCHICUM SPECTOSUM.**

Growing through a Green Carpet of *Herniaria*.

Gem, Poeticus ornatus, and odorus rugulosus. There are of course many more which do well for pots, but when means are limited they cannot be got in the same quantity.

Narcissus for the Garden. This list includes ordinary garden varieties which are reliable, cheap and suitable for cutting, but does not include any of the newer and more choice varieties—a few, very few, because there are so many to choose from, are given below.

Yellow trumpets. —Obvallaris, the Tenby Daffodil, a small flower but very early; Henry Irving, Golden Spur, and Emperor. Maximus, although the best early yellow trumpet, never seems to thrive in some soils. It does not seem to be any fault in the cultivation. It cannot therefore be relied on, but where it is known to do well it should be included in any collection.

Bicolor trumpets. —Horsfieldii, Empress, Madam Plomp, and grandis. This last is almost the latest bicolor, and although rather short in the stem is quite worth having.

Incomparabilis (medium cups). —Sir Watkin, Beauty and Stella superba.

Leedsii (smaller cups). —Beatrice, Mrs. Langtry, Bridesmaid and Watervitch.

Barrii (almost flat cups). —Conspicuous, Blood Orange, and Siddington.

Poeticus (The Poet's Narcissus). —Almira and Herrick.

Choice varieties. —Trumpets Madame de Graaff, Glory of Leiden, Golden Bell, Weardale Perfection.

Incomparabilis Section.—Will's Scarlet, Vesuvius, Lulworth and Lady Arnott.

Others which might also be included are—Lady Margaret Boscawen, Incognita, Maggie May (white), Peach, White Lady, Poeticus, Dante and Cassandra; Primrose Phoenix, and Argent, two good doubles.

Tulips suitable for pot work. —Pottebakker, red, yellow and white; Due van Thol, red, yellow and white, very dwarf; Chrysolora, yellow; La Reine, white-shaded pink; Thomas Moore, orange red.

Early Tulips for the garden. —Pink Beauty, Montresor, yellow; Keizerskroon, red and yellow; Snow Queen, Vermilion Brilliant and Prince of Austria, a shaded orange which makes an effective combination with dark-red Wall-flower.

May-flowering cottage Tulips. —Yellow, Retroflexa, Bouton d'or, Mrs. Moon. White, Elegans alba, White Swan. Red, Gesneriana spathulata, Coronation scarlet, and Macrospela.

Dwarf species of Tulips suitable for the rock garden are Dasytemon, Batalini, Persica and Clusiana.

Among the Darwin Tulips we have Clara Butt, salmon pink; Sultan, deep maroon; Europe, pinky scarlet; Pride of Haarlem, deep rose; and Psyche, pale rose with a blue base.



### THE TULIP.

Tulip . . . a strange and forreine flowre, . . . with which all studious and painefull Herbarists desire to be better acquainted, because of that excellent diversitie of most brave flowers which it beareth.—JOHN GERARD, in *The Crete Herbal*.

## Impressions of an Amateur.

NO one probably who has visited the villages and country towns of England, either in the North, Midlands or South, can have failed to notice the widespread interest which is evidenced on the part of nearly every householder with a plot of ground at his disposal in the culture of fruit, flowers and vegetables; and more than this, that in the case of those who are so unfortunate as to be without a space of mother earth, strenuous efforts are made by means of boxes and pots and many other devices to indulge their gardening proclivities as well as they are able. Even in the Black Country the most persistent attempts are made by the cottagers and others to overcome the disabilities under which they are forced to live, and from personal knowledge one can admit that their efforts are crowned with a greater measure of success than one would believe to be possible. In short, it is there the exception rather than the rule to find anyone who, having the means at command, fails to take the fullest advantage of them, and to grow such flowers and vegetables as he can, and in friendly rivalry with his neighbours.

In the rural parts, moreover, it is especially interesting to notice the manner in which the cottage gardens show the judicious blending of the useful and beautiful. The cottages themselves, be they of brick or stone, modern or mellowed with age, are invariably covered with roses, honeysuckle, or other climbing plants whose blossoms gladden the eye of the chance wayfarer, whilst the windows (too often, alas, closely shut) are filled with a profusion of pot plants, whose excellence many a professional would freely admit. And so on, through all grades of the community, from the labourer with his back garden to the villa resident with his lawn and greenhouse, we find the same instinct at work, the same keen interest displayed in all things horticultural, the outcome of which is not to be measured by the mere worth of the produce which their energy has brought forth.

In reviewing gardening strictly from the point of view of the amateur on this side of the Channel, the most kindly critic is forced to the conclusion that, be the contributory causes what they may, a somewhat different state of affairs seems to obtain. The creeper-clad cottage here is the exception rather than the rule, while the cottage garden, if cultivated at all, is filled with the accommodating potato, with perhaps a few cabbages; of the other kinds of vegetables there being but a trace, whilst fruit and flowers are conspicuous by their absence. How often in passing through the remoter country districts one has observed little groups of cottages, each with a garden plot attached, and each unfilled and trodden as hard as the neighbouring highway, of which they are allowed to become more or less a part. In the case of those plots which are under cultivation, one cannot but feel that in many cases things might be worked much more intensively than they are—the neglected corners adorned with unproductive rubbish heaps might be planted with marrows, the bare palings and fences be covered with runner beans, the neglected edges be brightened with some old fashioned herbaceous plants, and so on.

## Herbaceous Lobelias.

With the erection of labourers' cottages here and there over the countryside during the last few years, however, it is pleasing to observe that signs of a change to better things are becoming apparent, and some gardens there are whose owners take an obvious pleasure after their day's work is over in cultivating them to the fullest extent; and it may be that the spirit of emulation will quicken others to follow their good example.

Very few cities in the kingdom corresponding to Dublin in population are so blessed as regards freedom from smoke and kindred nuisances, and though it is true that the atmosphere is humid, yet we rarely suffer from a low thermometer. Conditions, therefore, being so favourable, one would be entitled to suppose that horticulture in the suburban districts of the city would be a marked characteristic on every hand. That we are inappreciative of the beautiful no one would urge for one moment, and yet if one walks through many of the districts surrounding the city proper, what arid wastes are many of the gardens one sees, consisting for the most part of a neglected grass plot, ill cut, or not cut at all, with perhaps an attenuated shrub stuck in the middle. An occasional oasis amongst the wildernesses, but accentuates the forlorn condition of the rest, and gives one to think if there can be a reason for it all other than the very obvious one.

To bring about a happier state should be the aim of all lovers of gardening, but even these realise difficulties to be surmounted other than individual apathy. As a matter of fact, many instances have come to the knowledge of the writer in which the contents of gardens which had cost their owners many weeks of work and not a little expense met with more than a passing glance of admiration; indeed, so much were they appreciated that their contents were removed quite quietly during the still hours to other scenes. Incidents such as these undoubtedly go a long way in checking enthusiasm individually, and it would be interesting to know to what extent the trouble exists. In any case the matter is not irremediable, and those who have suffered should take heart of grace and still do their best, thus inspiring their neighbours and friends first by example, and again, if necessary, with kindly precept, to unite with them in trying to convert their own particular areas into beauty spots which may prove to be the nuclei of a garden city.

F. C. P.



Is the rock garden, Killiney Castle, County Dublin, there is at present a fine plant of *Fuchsia procumbens* in good bloom. This *Fuchsia* does well in the sheltered, free-from-frost position, facing due south. In a neighbouring garden, same aspect, it does equally well, remaining out all winter. In this rock garden two plants, in different positions, of the ordinary greenhouse, Scarlet *Amaryllis*, are flowering well; they have been two years out in the open without any protection. The following *Primulas* are showing strong *second* flowering:—*Japonica* (red). *Involucrata* and *Kewensis*.

R. C. M. M. S.

WHEN summer flowers are waning, these gorgeous autumn blooms open their spikes of brilliant blossoms, as if in defiance of the passing of the summer. Their brilliant colours seem to glow in the autumn light, yet harmonise beautifully with the other autumn tints which presage the fall of the sere and yellow leaf.

In the October 1908 number of IRISH GARDENING some notes were given on *Lobelia Morning Glow*, which has since been put into commerce under the name of *L. Gloire de St. Anne's*. This variety, as stated in the article referred to, was raised by Mr. A. Campbell, gardener to Lord Ardilaun. *Gloire de St. Anne's* is a handsome variety, reaching six feet in height, bearing long spikes of brilliant scarlet flowers which are produced for weeks in succession.

As long ago as 1887 Mr. Campbell began raising improved forms of *Lobelias*. In that year he produced *Firefly*, now well known and still indispensable. This beautiful hybrid resulted from fertilising *L. fulgens* with pollen from the true green-leaved *L. cardinalis*. In 1894 Mr. Campbell crossed *Firefly* with *L. fulgens*, obtaining only one seedling which showed the effect of crossing, and on flowering it was named Lord Ardilaun. From this single seedling has resulted the entire stock of *Lobelia* Lord Ardilaun now in cultivation. In this variety the colour of the flowers is softer than in the two previously mentioned forms, and the foliage is ruddy red, in contrast to the bronzy green of *Firefly* and the hoary leaves of *Gloire de St. Anne's*.

Another of Mr. Campbell's productions is *Lobelia St. Anne's* which resulted as a seedling from *Firefly*. It is in the way of *L. fulgens*, and when well grown is capable of a fine effect.

In the matter of cultivation, these *Lobelias* are not difficult, providing the two essentials, moisture and nourishment, are freely provided during the growing season. Well rotted cow manure forms excellent food material, and should be freely dug in in spring where the *Lobelias* are to be planted.

In ground which is constantly wet these plants are hardier than is generally supposed. We have known them in a bog garden for years, only being lifted each spring as growth commenced, split up, and replanted when the sites had been dressed with manure, and there the finest spikes are invariably produced. In many gardens, however, it is necessary to lift the roots every autumn and winter in a frame. This is the case when the plants are grown in ordinary garden beds or borders which are subject to alternate freezing and thawing.—B.



Stately stand the sunflowers, glowing down the garden side,  
Ranged in royal rank arow along the warm grey wall,  
Whence their deep disks burn at rich midnoon afire  
with pride,  
Even as though their beams indeed were sunbeams, and  
the tall  
Sceptral stems bore stars whose reign endures, not  
flowers that fall. *Algernon C. Swinburne.*



## Roses.

By O'DONEL BROWNE, M.D.

WHAT with the absence of sun and an abundance of rain, things have for a long while looked mighty glum, and poor Roses have suffered. Indeed, when Naas Show came near the fatal day one looked and felt dismally sad. Then there came some kind angel, and during the few days flowers came where flowers never promised. It meant watching and catching every promising bud and shading it. But I found out that shading alone with a Jeffrie's shade was not enough. The air seemed saturated with moisture, and this got even under the shades and gummed up opening blooms and started at the blooms' junction with the stalk, a regular brown, spongy rot. When we came to cut I was surprised to see such quality and substance in the flowers. Red Roses seemed very good and promising, due no doubt to the dark weather and absence of sun-bursts. There were two very good stands put up in the twelve open, and competition was very keen. At one time it looked an even money chance, but I am glad to say the judges were nice, and gave me a first, and my old rival from Celbridge was second. In my box I had Mrs. David McKee, Hugh Dickson, Dean Hole, Lyon, Mme. Wagram (my old stand-by), Mme. Charles de Luze, W. E. Lippiatt, Mrs. John Laing, Countess of Caledon, Mme. Melaine Soupert, Mildred Grant, Mrs. T. Roosevelt. My best were McKee, Roosevelt, Caledon and Melaine. My rivals were very strong in W. Shean, Edward Mawley (very good), Druschki, Lyon, Mme. Hector Leuillot, Hugh Dickson. In the smaller class Mrs. Stephen J. Brown won easily with nice clean flowers. In fact, despite the weather, all Roses shown were more clean than I have seen them in other years. Turning to the trade exhibits, we had Messrs. Ellis of Grafton Street and Alexander Dickson of Newtownards. Messrs. Ellis had numerous vases of Mme. Abel Chatenay, with grand foliage, though the flowers were small. They had also bowls of Wichurianas, such as Dorothy Dennison, white and pink, Dorothy Perkins, American Pillar, all beautifully arranged. Their exhibit was most tastefully got up—harps, crosses, wreaths, bridal bouquets, all made up most artistically. They were awarded the gold medal, and right well they earned it. Messrs. Dickson had six tripods of Wichuriana Roses, beautifully clean; and then in front they had four twenty-four Rose boxes. Their flowers were very massive and heavy. Here one also noticed cleanliness. Foremost and unrivalled stood their celebrated new seedling, George Dickson (of which I wrote pretty fully in a previous article). I never saw such flowers in my life as they had. Truly, this is a magnificent variety, and will last for ever and for aye. Heavy, enormous substance, shape globular, with a good centre, colour dark claret-purple. With a regular bloom as a grape has, on the inside of the petals, this Rose created a perfect *furor* all day. We were told that they were only second-class flowers—all I can say is that third-class would satisfy me. This Rose came out at one guinea a plant this spring, but catalogues this autumn have not said as yet what the price is to be. All I can

say is that it will be cheap at any price. That it is a good laster I will readily confess. I brought the best flower home, and to test it I put it on my mantelpiece, and there it remained *in statu quo* for several days, and on any of those days it would have shown well. How the price will cope with orders for it this autumn I do not know. The growths as I have seen it are enormous, as thick as my Stylo pen. It does well as a cutback—another most useful adjunct. Truly, this Rose has a future. Other "news" I saw and raved about were Geoffrey something or other—I cannot remember the surname. It resembles George C. Waud, but is larger and fuller. Their stand had fine Lyons, Caledons, Roosevelts, Wauds, Lippiatts, Druschkis, and a great many more. They won the cup presented by Bertram H. Barton, Esq., D.L., and right well they put up their stand

## Regal Pelargoniums.

By W. H. GREEN, The Hermitage Gardens, Dundrum.

TRULY a most appropriate name for this section of one of the most delightful and useful greenhouse plants we have. As an early summer flowering subject it has few rivals, coming into bloom just as the spring bulbs and forced plants are finished, and making a fine display for three months. The cultivation is very simple. Cuttings taken in spring, I find, is the best method of propagation. These should be taken from plants that were started into growth the previous autumn. Cut at a leaf joint, place them singly in small pots if possible; if enough of these are not available, place two or three round a three inch pot in soil consisting of fine loam and leaf-mould equal parts, with a good dash of silver sand, well mixed. When the cuttings are inserted place them on the greenhouse shelf, give them a thorough good watering, and keep them slightly shaded; in a few weeks they will become sufficiently rooted to pot off singly into three inch pots. The cuttings placed singly in small pots will take a size larger, using a similar compost, preferably a little rougher loam; give a good watering, and place the plants back on the shelf, giving air freely; also pinch plants that are inclined to grow long to keep them bushy. Keep a close watch for greenfly, to which they are very subject; fortnightly fumigations will keep this in check. When the final potting takes place use a good rough porous compost similar to previous pottings, with a little Clay's Fertilizer added; a six inch potful to the barrowful of soil is sufficient, making the soil in pots moderately firm. When the plants are flowering freely, give weekly applications of diluted farmyard manure water. After the flowering season is over, place the plants on their sides in a sunny position for a period of rest, prune them hard back. Keep on the dry side till growth commences, then shake the old soil away and place them in small pots. As growth advances, re-pot into flowering pots of about seven or eight inches. With regard to varieties, all are very attractive; many of the older ones are still favourites. A few special varieties may be mentioned, viz.:—Vulcan, Vicar of Exmouth, Andre Leuret, Beauty, General d'Amande,

## Chrysanthemums.

### CHRYSANTHEMUM MAXIMUM.

THE newer varieties of this old favourite are a decided acquisition to the flower garden. Varying in height and time of flowering they prove exceptionally useful for high-class border work, and where large quantities of cut flowers are in daily want few plants yield a greater return.

In fact if the blooms are cut regularly and not allowed to fade on the plant, it is surprising how long a supply is maintained. Good cultivation is of course necessary as with other plants where the best results only are tolerated. Well enriched garden soil suits admirably, but if the size of the flowers is to be kept at the maximum frequent propagation is desirable.

Nor is this difficult since every plant as the flowering period wanes will be found forming vigorous young shoots around the base of the old flower stems. All that is necessary is to lift the plants in autumn or spring, when they will readily pull to pieces. These may be replanted at once where wanted to flower or lined in in reserve quarters to be lifted as required.

A good selection of varieties will provide flowers from the middle of July through August. The following can be recommended as likely to give satisfaction:—Etoile d'Anvers, a tall growing form with flowers five inches across; King Edward VII., an older variety, but still good; Mrs. C. L. Bell, not so tall as the first-named, but with equally large flowers; Mrs. J. Tersteeg, also a tall grower; White Lady, very free and good; Vomerensis, tall and very free, flowers large and hand-

some; and Robinsoni, an old but desirable variety with elegantly cut wavy florets.

### CHRYSANTHEMUM FLIGINOSUM.

Commonly called the Giant Ox-eye Daisy. This is a very handsome border plant for late August and September. Reaching a height of five or six feet, a well-grown group is particularly attractive at a time when

white-flowered perennials are very valuable. The flowers are produced in clusters at the ends of the tall stems, and although individually not so large as those of *C. maximum*, this is more than compensated for by the number produced on each stem. Good cultivation is essential to do this plant justice. Grown in poor dry soil the specimens will only be caricatures of their true selves. The clumps must be broken up periodically as they show signs of weakening and the soil well enriched before replanting.



CHRYSANTHEMUM MAX. ETOILE D'ANVERS.

Flowers five inches across.

(Photographed in Botanic Gardens, Glasnevin.)

CENTAUREA MOSCHATA, or Sweet Sultan, is one of the most

fragrant annuals, and very little grown. It should be sown in April in a sunny position, in permanent quarters, and thinned out finally about 6 inches between each plant. The seedlings should not be moved, as they do not transplant well. The plants reach a height of 15 inches, and owing to their rather straggling habit should be loosely tied round with bust. *C. moschata alba* is a white form; *C. moschata flava*, a lemon yellow variety; and *C. moschata purpurea*, a good mauve. The pink *moschata* should not be omitted from the collection. All emit a delicious perfume, resembling that of vanilla, and are in bloom from mid-June to the end of July.

L. G.



## The Compass Plant of the Prairie.

"Look at this delicate plant that lifts its head from the meadow,  
See how its leaves are turned north, as true as the magnet;  
This is the compass flower, that the finger of God has planted  
Here in the houseless wild, to direct the traveller's journey  
Over the sea like, pathless, limitless waste of the desert.  
Such in the soul of man is faith."

—From *Evangeline*.

THESE lines were inspired by a letter which Longfellow received from a United States general about the plant's peculiar characteristic of turning the edges of its leaves due north and south, and the fact seems to have long been known and made use of as a guide by hunters in the open prairies of North America.

Although many disbelieved that a plant could indicate direction, yet when Professor Asa Gray investigated the matter upon the wild plants in the prairies, he found that the above lines were founded on fact, and that the edges of the basal leaves were generally turned due north and south.

Most plants of this kind have the stoma or breathing pores of the leaves on the under surface, but it is interesting to note in this case that the pores are equally divided on both surfaces, and the "palisade cells" of the upper and lower strata are very much alike.

The poet is quite astray in describing this as a delicate plant, for it is a hardy, strong-growing herbaceous perennial with flower stems reaching from 3 to 7 feet high, according to whether it is planted in good or bad soil. The flowers are yellow, about three inches across, something like small sunflowers, produced in August or September. The foliage is distinct and handsome, being divided into fine segments.

The plant is easy to grow in any open situation, although not exceedingly showy, yet is an attractive and interesting plant to have in the garden.

## The Beginner's Guide to Fruit Growing.\*

By F. A. WAUGH, Massachusetts Agricultural College.

THIS eminently practical little book deserves to be read by all who contemplate embarking on fruit growing, whether for pleasure or profit. True, it is written primarily for American beginners, yet the sound practical advice given will appeal to all reasonable-minded people; and in Ireland, where the future of the industry is fraught with much promise, such a work as this should do much to encourage the novice and clear away many natural doubts and fears. Every aspect of fruit culture is lucidly dealt with, from the propagation of the young trees to the renovation of old ones. Allowance must be made for the difference in certain details as practised in America. In propagation, for instance, root grafting of apples is common in many parts of America. This system is not practised to any great extent in this country, most nurserymen preferring

budding. The author, however, discusses the various systems quite impartially, and concludes that good trees may be produced by any or all of the various methods practised. The present writer, however, prefers the budded specimen as more suitable for general purposes here since the stock is obviously much stronger at the beginning. Here again, however, allowance has to be made for the wonderful growth which takes place during summer in the States.

Interesting chapters on orchard management, cultivating, spraying, &c., combine to add much value to the treatise generally.

Lists of the various varieties of fruits are included, but these, with few exceptions, will not be found suitable for this country, and some, such as peaches and apricots, do not come under the heading of orchard fruits in Britain and Ireland. The book is amply illustrated, well bound, and clearly printed, and is a credit to author and publishers alike.

J. W. B.

## Sub-Alpine Plants.\*

By H. STUART THOMPSON.

IN a former work entitled "Alpine Plants of Europe," Mr. Thompson has dealt with the Alpines of the higher regions in a masterly manner. Sub-Alpines when applied to plants must be a very elastic term, for although a few plants seem to reside only in the sub-Alpine zone, yet the majority overlap—that is, besides being found in this region they either ascend to the Alpine zone, or may also be found in the lowlands. Many of our own native plants are found in the Swiss upland meadows and woods, and although Switzerland possesses about 600 more species of plants than the British Isles, Mr. Thompson points out that we have much to be thankful for in our own beautiful flora.

Sub-Alpines, not having to face such severity of weather and boisterous winds as the high Alpines do, naturally assume a large stature, and we get most of the stronger growing Alpines for our own rockeries from this region.

June and early July is a good time to see the Gentians, Alpenrose, &c., in their full glory; but as many visitors to Switzerland take their holiday in August, Mr. Thompson gives a chapter on "Fruits and Berries" to be found about that time. A short chapter follows on the cultivation of Alpine plants, in which the author writes—"As early summer approaches, most 'Alpines' should be well watered once or twice a day." Such frequent watering is neither necessary or desirable, for most Alpines are deep-rooting, and on a well-built rockery their roots delve deeply in the soil in search of moisture.

"Collecting and Preserving Plants" is a useful chapter, and tells the novice how to dry and preserve the plants he collects. The greater part of the book is given up to descriptions of plants—850 species are described and 33 coloured plates with 168 figures are given.

\* Orange Judd Company, New York; Kegan Paul, French, Trubner and Co., Ltd., London. 3s. 6d. net.

\* "Sub-Alpine Plants." Published by G. Routledge & Sons, Ltd., London. 7s. 6d. net.



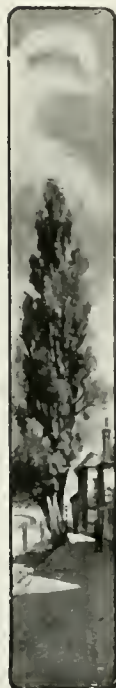
Those who have rockeries will find this work helpful to verify their own plant names, and it will be a most useful companion to those going for a holiday to the Continent.

We are pleased to note that the author has taken exceptional care as to the spelling of plant names and in giving accurate descriptions.

## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.



MANY of the herbaceous plants will now be past their best, and it will be well to remove the old bloom spikes or heads, as it will give the borders a tidy appearance, and it also helps the plants, as maturing the seeds weakens them. Should it be desirable to save the seed of any particular plant, a few of the spikes or seed heads can be left on for that purpose, and any already matured can be gathered.

The borders will be gay for some time yet with many of the beautiful autumn-blooming plants. The many varieties of Asters are a feature in themselves, and will take the place of the flowers which are past. Cuttings of shrubs can now be put in firmly in cold frames or hand lights; keep close and water, also shade from strong sun, and they will soon callus, when they can have air and full light given them.

Grass still requires to be mown and edgings of walks kept neat. Put in a stock of cuttings for next year's display of such flowers as *Calecolarias*,

*Pentstemons*, *Marguerites*, *Fuchsias*, &c.

If it is desirable to renew, or relay box edgings, September is the best month to do so. Towards the end of the month prepare by thoroughly pulverizing all beds or spaces which are to be planted with bulbs of *Narcissus*, *Scillas*, *Snowdrops*, *Anemones*, &c. Many others are best put in now, as these at once start to make roots, and will be established before cold weather sets in. Spring bedding plants which were lined out last month must be kept free from weeds, and the ground between the rows should be stirred with the hoe to encourage free growth. Violets will now have nearly filled their spaces; they should have all their runners removed, and a good layer of thoroughly decayed manure should be put on, such as a spent mushroom bed; they will then plump up their crowns before being removed to their winter quarters.

## The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath,  
Killruddery, Bray.

LATE VINERIES.—On account of the wretched wet weather and sunless days during August, grape-growers will find it almost impossible to get *Muscats* of *Alexandria*, *Gros Colmar* and other late varieties to colour properly. The hot-water pipes must be kept fairly warm to encourage a buoyant atmosphere, and should the unfavourable weather continue every means must be adopted to assist the bunches to finish nicely by the end of September. A little fire-heat will also be found very essential for ripening the wood and laying a good foundation for another year.

PEACHES and NECTARINES.—It will be necessary to watch these trees for laterals, which should be persistently pinched off at the first or second leaf. Then carefully expose all fruit to the full light. If the leaves are very dense or numerous a few may be removed without doing the least injury, or else tie them back clear of the peaches, which need plenty of sunshine. Trees that are carrying good crops will occasionally need stimulants—either liquid or artificial manure—to assist them in swelling their fruits. In gathering, the ripe fruits must be very carefully handled or they will suffer from bruising. Always have a box or basket with nice soft woodwool ready for placing them in, and never on any account lay them on anything hard or rough.

THE ORCHARD HOUSE.—When the pot-trees have finished fruiting place them outside and plunge them in ashes, and if top heavy tie them up to a wire to prevent damage by rough winds. The ashes will keep them steady, and also help to retain moisture at the roots. If they are infested with scale you must make the most of your opportunity to get it eradicated. Young trees that are intended for the orchard house next year, and were potted up last season, should now have their pots well filled with active roots, and may be given some weak stimulant.

MELONS.—Those who have to depend on frames for producing this delightful fruit, I fear, will meet with many disappointments, for it is almost impossible to manage keeping the temperature up to growing point during the day time, and the glass nearly went down to freezing point several nights during the first two weeks in August. But I have seen some excellent early fruit grown in stoves, which have given perfectly satisfactory results, and in two or three gardens I see a good set on a second batch of plants which are swelling nicely, and should be ripe about the middle of September. When they are finished some of the old soil will be taken out and replaced with new for growing winter cucumbers.

STRAWBERRIES.—New beds may still be made by those who failed to plant early, though no time should be lost or they will have very little chance of getting established before the winter. Then you will have no prospect of obtaining a crop the first year.

GENERAL REMARKS.—Taken all round the apple crops are much below the average in this district. They

blossomed well, but the fruit failed to set properly, consequently many have dropped off since, and a number of those remaining are badly shaped and undersized. Pears are extremely plentiful, but with the unnatural low temperature I doubt if many varieties will ever attain their proper size. Victoria plums and damsons are a good crop in this garden. Bush fruits are also very good.

## The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor,  
Co. Kildare.

**C**ONSTANTLY take advantage of any dry weather to keep down weeds by hoeing, as it is wonderful how quickly weeds grow and seed at this time of year, especially if this month is warm and dry, which often occurs. In this month we sometimes have one or two nights' frost, just sufficient to injure or destroy French and Runner Beans, Vegetable Marrow, and Cauliflower, so that if the nights look like frost an effort should be made to protect these vegetables, as generally after a couple of nights' frost we get a long spell of fine mild weather that keeps the crops growing for several weeks.

**CELERY.**—Early in the month earth up the main crop of celery, leaving that for latest use till the end of the month. With so much rain this year, celery planted out early has made fine growth, but the last planted celery on account of the cold, especially at night, has not done well. Before earthing up remove all side growths and decayed leaves, tying up each plant with a piece of matting, then dust with lime and soot equal parts between and around the plants, to help to prevent them being injured by slugs and worms. Always earth celery on a fine day when the soil is dry, breaking it up well before putting to the plants. On no account cover the heart of the plants. Before earthing up it would be well to give a good soaking with liquid manure or good artificial fertilizer, many of which are advertised in this journal.

**ONIONS.**—Spring sown onions should now be fit for pulling, and if the weather is dry they may remain for a week or ten days on the open ground, finally finishing the drying of the bulbs under cover, either in an open shed or in an empty frame, giving plenty of air in wet weather, and lifting off the lights on fine days. When the bulbs are well ripened store in a cool place, and for preference bank the onions.

**POTATO.**—This crop should be lifted at once where the haulm has died down, it being a great mistake to delay lifting after this has taken place as is so often done. Pits are the best way of storing, and either have air holes which should be stuffed with straw or leave half a foot wide on top of pit uncovered with clay for a week or two to prevent the potatoes heating.

**SPINACH.**—Another sowing should be made early this month of this useful vegetable. Victoria Round is one of the finest, and stands severe weather. The plants, if the seeds grow freely, should be thinned to about six inches apart in the rows.

**CABBAGE.**—Towards the end of the month get planted out your cabbages for use in spring, and good plants fit for planting out should be had from seed sown as recommended in July or early August. For the first planting, about September 20th, I select those varieties noted for earliness, such as Excelsior, a good type of Ellam's Early, Webb's Emperor and Sutton's April, and few of these will be found to bolt in spring. If sown before the 20th of September, and a warm autumn follows, many of the cabbages would start to whiten, and then when frost follows these heads decay. Later in the month plant for succession Flower of Spring, Mien's No. 1, and Early Offenham; these will require 1½ feet between the plants, in the rows 2 feet apart, while the smaller early varieties may be planted only 15 inches apart in the rows. An important point in growing spring cabbage in heavy land is to plant on raised drills, as cold seldom kills cabbage plants, but wet will if it lies round the stem of the plant; therefore secure natural drainage in heavy soils, and few plants will fail.

**TURNIPS.**—These sown last month should be thinned to about 6 inches apart, and keep clean by hoeing.

**CARDOONS.**—These may now be blanched by tying round with bands, and earthing up the same as celery with clay.

## Notes.

**GALEGA HARTLANDI** is one of the dwarf varieties of the Galega family, growing from 3½ feet to 4 feet, according to position. The flowers are deeper in colour than *G. officinalis*, being more of a lavender shade. They are invaluable for cutting, lasting well in water. It is a showy perennial plant for the herbaceous border and wild garden, being in bloom from July to September. Propagate by dividing the clumps in autumn or spring.

**POTENTILLA GIBSONI** is a fine plant for rockeries and the front of herbaceous borders. The flowers are single, of a brilliant scarlet. The inflorescences are from 2 feet to 2½ feet long, but, owing to their procumbent habit, greatly detract from the appearance of the plant in some positions. L. G.

### OLEARIA OLEIFOLIA.

WHEN more plentiful and better known this handsome species will be eagerly sought after by lovers of good shrubs. It is as free flowering as that valuable species *O. Haastii*, and so far appears quite hardy. It has not, however, been sufficiently tested in this respect to allow of a definite statement. A flourishing specimen is now in flower at Glasnevin. This is growing in a border fronting the curvilinear range, and was put out as a small plant from a pot about four years ago. The leaves are much larger than those of *O. Haastii*, of a pleasant green colour. The flowers are produced in corymbs with great freedom. Propagation is easily effected by cuttings or seeds. Seeds collected from the specimen at Glasnevin germinated freely, and a large batch of young plants resulted.—B.

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# Irish Gardening

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# IRISH GARDENING

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No. 80

A MONTHLY JOURNAL DEVOTED TO THE  
ADVANCEMENT OF HORTICULTURE AND  
ARBORICULTURE IN IRELAND

OCTOBER  
1912

## Spring Bedding.

IT is fortunate that flowers suitable for the above purpose are practically all easy to grow, and in this respect, and also as regards outlay in hard cash, they are within reach of the great majority of those who own gardens, indeed much more so than the class of plants usually cultivated for summer effects.

Bulbs in various varieties, principally Hyacinths, Tulips, Narcissus, Crocus, &c., are, of course, the great stand-by for this work, and the good standard sorts are now so cheap as to be within reach of all. But here a word of caution. If varieties true to name and colour are required, obtain them from a reliable source even if a little more has to be paid.

However, apart from bulbs, there is a larger variety of spring flowering plants that may be made available, either planted in masses or, better still, in combination with the various bulbs above named. To mention only a few. Wallflowers, with their sweet perfume and in various colourings, stand an easy first. *Arabis albida* fl. pl. is an invaluable plant for spring work, thoroughly hardy, easily propagated from cuttings, and the flowers, being borne in great profusion and snow-white, are most accommodating as a ground work to use with the strong, vivid colours of some of the Tulips, &c. Aubrietias in various varieties, but to be used sparingly and with care. Giant Double Daisies, white and pink; good strains may now be obtained with flowers larger than a half-crown piece. They seed freely and grow like weeds. The coloured Primrose and its larger brother Polyanthus. Violas in various varieties, and last, but not least, the old favourite Forget-me-Not in different sorts, probably the best of

which for bedding work is *Myosotis dissitiflora* and *Myosotis alpestris* "Royal Blue." Any of the above are cheap to buy, but they are easy to propagate and increase, and all may be grown at home with a minimum of trouble and accommodation.

As regards the actual planting, this should be done as early as possible after the summer bedding has been cleared away, and it is well worth while to go to a little trouble in making a good preparation. The writer believes in trenching the beds two spits deep and incorporating four or five inches of very old manure between the top and bottom spit. By the way, care should be taken not to allow the manure to come in contact with bulbs of the Narcissus. This serves the double purpose of bringing the dry soil from the bottom of the bed and thus providing congenial conditions for the bulbs, and also fertilising the soil in the best way for the occupants of the bed the following summer.

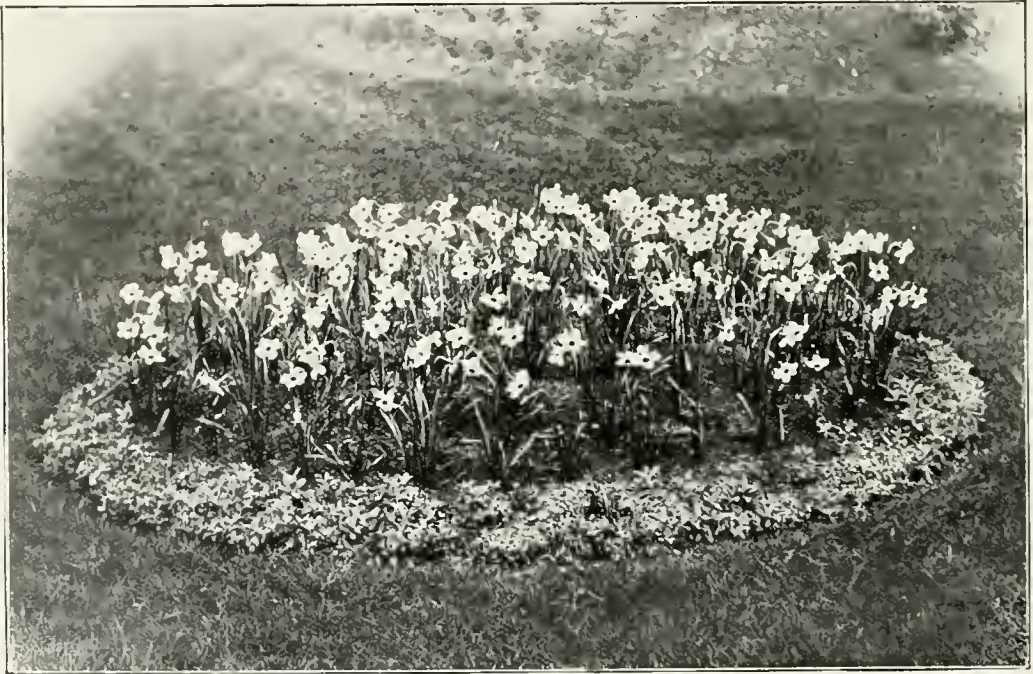
If sand is available it is desirable in wet weather to spread about half an inch in depth over the whole surface so as to keep the soil from working into mud under the feet of the planter. Part of the sand will be carried down by the planting tool, the best being a blunt pointed "dibber," and so aerate and drain the soil immediately under the bulbs. Very little need be said in the way of instruction as to actual planting. It is merely a matter of making as many holes in the bed as there are bulbs to plant; and as regards depth, a safe rule is in or about three times the depth of the bulb. Except when bulbs are planted in combination with spring flowering plants, the golden rule is to plant thickly—Tulips and

Narcissus about three inches apart, Hyacinths about seven inches. Most amateurs and many professional gardeners err in this respect, with the result that foliage and flowers lose the benefit given by mutual support. Cold, perishing March winds blow through the beds, and flowers get sadly soil-dashed by heavy rains.

It is not necessary to grow a large number of species to obtain a good effect, and it is better not to attempt anything in the way of designs in beds. A much more satisfactory result will be produced by making each bed a

of course, upon the varieties planted and on the combination and harmony of colours as against sharp contrasts. It is quite an easy matter to harmonise colours, but it is sometimes difficult to obtain combinations that will come into flower at exactly the same time. The following are a few such that have been found to meet this requirement :—

Wallflower Blood Red and Tulip Prince of Austria, a very telling and effective combination ; Wallflower Eastern Queen and Tulip Thomas Moore ; Wallflower Cloth of Gold,



[Photo by]

[Mackey]

A BED OF THE POET'S NARCISSUS

mass of one colour, or a combination of not more than three colours, and if a very large bed a broad border of a colour to harmonise with the whole may be permitted.

In order to lengthen the flowering season it is well when beds are planted with bulbs alone to put down three kinds to flower in rotation, say early Crocus, early Tulips or Narcissus to follow on, and May flowering or Darwin Tulips to follow still later. By this plan the Crocus foliage will act as a protection to the tender growth of the later bulbs when they break through the soil.

The sort of show one eventually gets depends,

Myosotis dissitiflora and Tulip Gesneriana spathulata, all mixed together ; Tulip Pink Beauty and Myosotis or Aubrietia Hendersoni, mixed ; Tulip Couleur de Cardinal and Myosotis ; Tulip Bouton d'Or and Yellow Polyanthus ; Tulips La Candeur and Tournesol, mixed, on a carpet of Aubrietia Hendersoni ; Hyacinth King of the Blues and Tulip Keizerskroon ; Viola Maggie Mott or other lavender-coloured Viola and Poet's Narcissus. The possible combinations are, however, almost endless, and intelligent observation during the flowering period will give ample ideas to work from the following year.

HORTUS.

## How to Grow Mushrooms.

By W. D. BISANT, Curragh Grange Gardens, Kildare.

**T**HIS "rising" esculent may be grown almost anywhere—in a cellar or on a warm wall of a stable—provided the requirements of the plant are supplied in a reasonable degree.

In and around large towns in Britain and on the Continent mushrooms are extensively grown for market supplies, and when successfully grown they pay exceedingly well. In Edinburgh, for instance, mushrooms are largely grown in tunnels underneath some of the principal streets. The three chief points in growing mushrooms are a suitable temperature, proper preparation of the manure, and last, but not least, good spawn.

**OUTDOOR CULTURE.** To get an unbroken supply of mushrooms from outdoor beds throughout the year may be a difficult matter to many growers, but it is quite possible where the suitable material is at hand. The manure must be plentiful, a suitable place for drying the same must be found, and the material must be thoroughly prepared. Sufficient manure for making a bed should be collected at one time, if possible, as mixing old with freshly gathered manure is not a good practice. The horse droppings should be gathered from the stables, with the longest litter shaken out. A fair amount of short litter is beneficial, as it helps the beds to continue in bearing for a longer period. The whole when collected should be laid out in a shed in a ridge about three feet deep, and turned every morning for a week or ten days. After that time the heat in the manure will be on the decline; when turning every third or fourth morning will be sufficient. In about three weeks the material will be ready for making up the bed. Almost any position will do for making the bed, except

perhaps in the middle of summer, when the coolest spot should be selected, such as under a north wall. The bed should be ridge-shaped, starting with anything from three to five feet at the base, tapering gradually to a narrow ridge at the top. It should consist of four parts of the fermented manure and one part finely-sifted loam well mixed together; the bed should be treaded and beaten as hard as possible. The bed will soon begin to heat, and some means must be used to find out when the heat is on the decline, as until then it is not safe to spawn the beds. When the temperature is on the decline and anywhere between 75 degrees and 80 degrees it is safe to spawn. Thermometers can be obtained for the beds, but a stick or two

inserted in the bed will give a very good idea of the heat by being simply pulled out and felt with the hand. When the bed is fit to spawn, break up the spawn into pieces about the size of a hen's egg, insert these pieces all over the bed about four inches deep and nine inches apart, covering them in with horse droppings. In about a



Photo by

Murphy

MUSHROOMS.

week's time cover the beds over with two inches of finely-sifted soil, moisten this and beat down with a spade; now cover the bed with a good layer of fresh stable litter. Of course, in cold weather, or if beds have been prepared in August for winter bearing, ample protection must be afforded. During hot, dry weather in summer frequent watering of the beds will be required (this summer there has been no necessity) twice a day even, on a very hot day. For keeping up a continual supply it is much better to make up small beds frequently than to depend on one or two large beds. From the time of spawning till the beds are in bearing is roughly about six weeks.

**INDOOR CULTURE.**—There is absolutely no necessity for a special mushroom house, as any cellar away from the dwelling will do, and there



it is easy to maintain a moist, even temperature. Where there is width enough a bed should be made on either side with a path between; of course, two beds are not essential. The beds should be about two and a half feet deep and of the same composition as already recommended for out-door beds; in fact the whole culture is practically the same as advised for out-doors. The beds need not be ridge-shaped, but may slope from the walls to the path, and be about three to four feet wide. Preparing the bed and spawning should be done just as previously advised. The structure should be damped down with tepid water several times a day, especially in hot, dry weather. Where a special mushroom house is provided there will be shelves fixed round the walls on which beds can be made up. These shelves should be at least four feet above the ones underneath. A hot water pipe is generally laid round the house, but only occasionally will it be found necessary to employ heat from it. The temperature ought never to exceed 65 degrees; from 55 to 60 degrees is more suitable. Rather than have to force fire heat to keep up the temperature, place a lot of fresh horse droppings in the pathway and turn them daily; this will create a nice gentle warmth in the house. When gathering mushrooms never cut them with a knife, but twist them round carefully, and trim the ends afterwards, as the old stump if left in the ground decays and destroys any possibility of more mushrooms springing from that particular spot. Woodlice are very partial to mushrooms. Boiling water poured down their haunts in the evening will greatly assist in eradicating this pest and do no harm to the beds. Slugs must be looked for at nights, and mice, which are often very troublesome, must be trapped or poisoned.



WE recently had the pleasure of seeing some sprays of *Achillea* "Perry's White," and note that it has received an award of merit from the R. H. S. on Sept. 10th. The double form of *Achillea ptarmica*, known as "The Pearl," is a general favourite for the border and for cutting; the new comer is an improvement in size of flower, and of the purest white, so should be welcome. It is said to grow three feet high, and bloom from June onwards. Mr. Perry of Enfield, the raiser, is sending out plants next spring. The forms of this *Achillea* run like couch grass under the soil, so need care as to the place in which they are planted, so that weaker neighbours will not suffer.

## Late Flowering Shrubs.

By J. W. BESANT.

IT is a common complaint against shrubs that they all flower early in the year, and for the remainder are dull and uninteresting. To the true gardener any plant remains interesting though not in flower, providing that during some period of the year it merits cultivation either for its flowers, fruit or foliage. There are some shrubs which may be interesting to botanists though never, in the general acceptance of the term, showy.

Most owners and managers of gardens, however, require shrubs which are attractive, and hence the quest for late flowering kinds, which will with free fruiting sorts and autumn-tinted foliage make the woodland and shrubbery beautiful in the fall of the year.

Some of these late flowers come from countries where the summers are longer and hotter than ours, therefore the shelter and warmth of a wall are necessary to bring them into flower. This, of course, depends a good deal on locality, as some which need this protection or assistance in one county may not require it in the vales of Wicklow or on the sunny slopes near the sea in Down or the southern counties.

An inspection of a good collection of shrubs, say in the middle of September, will surprise those unacquainted with the extent and variety in cultivation at the present time. The following may be of interest to any who contemplate adding to their collections during the ensuing planting season.

*Abelia chinensis*, native of China, a pretty shrub bearing attractive pale-pink or nearly white flowers late into the autumn.

*Arbutus Unedo*, the various forms of which have been referred to previously, begins to open its waxy, bell-shaped flowers in September, and continues all through the winter. Special note should be made of *A. Unedo Croomii*, which is by far the best of all for ordinary purposes.

*Bigelovia graveolens* is an uncommon yellow-flowered shrub from western North America, and flowers in September. The flower heads are produced in clusters towards the ends of the branches, which are also furnished with narrow silvery leaves.

*Caryopteris mastacanthus* belongs to the *Verbena* order, and hails from China and Japan.

It flowers in October, and should, as a general rule, be planted at the base of a sunny wall. It bears corymbs of beautiful blue flowers in October, and is one of the showiest plants in the garden at that time.

*Ceanothuses*, referred to in a recent issue, continue throughout September, and with the large number of hybrids now in commerce are sufficient in themselves to make a garden gay.

*Clematis*, especially those of the Jackmanni set, are particularly useful for late work. To mention only a few, we have Jackmanni *superba*, with large purple-blue flowers; Jackmanni *alba*, white; *rubro violacea*, reddish violet; and Prince of Wales, lighter in colour but of the same type. *Clematis Bergeroni*, the various hybrids of *C. coccinea* have all been noted in a former issue, and all are useful late flowerers, as also is *C. apiifolia*, which bears abundance of small white flowers in September.

*Colutea arborescens*, the Bladder Senna, and *C. longialata* continue to produce flowers at the ends of the branches practically until frost stops them, while the silvery bladder-like fruits, product of the earlier flowers, adorn the branches at the same time.

*Coronilla emerus*, the Scorpion Senna, is a hardy free-flowering shrub which persists late into the year, and is valuable alike for the shrubbery or open woodland. The flowers are yellow.

*Calluna vulgaris*, the Common Ling, is a well-known and generally loved dwarf mountain shrub. For garden purposes there are many fine varieties, one of which is the dark-coloured, erect-growing kind known as *Alporti*. This is a very fine plant for naturalising or planting in large colonies about parks and pleasuregrounds. There are numerous others with rose and red flowers, as well as a number of white varieties, in great request.

Of the true Heaths, *Erica vagans* or Cornish Heath is a beautiful late autumn flower. Of this there is also a white form and a fine deep red variety which makes a good show in September. *Erica stricta*, a south European species, is also attractive, bearing masses of charming pink blossoms on stiff upright branches. These Heaths are very valuable for open woody places where there is no lime in the soil.

*Escallonia montevidensis* is purely a wall shrub in most parts, but well worth attention where a warm sunny position can be spared.

It flowers in late September and October, producing large clusters of white flowers at the end of the current season's growths.

Fuchsias, such as *corallina* and *Riccartoni*, are very hardy and immensely useful for late autumn, continuing in bloom until the frost arrives. The little *F. pumila* is a gem for the rockery, as also is *F. thymifolia*, both standing severe frosts with impunity. *F. conica*, *F. globosa*, and *F. macrostema* are all useful in sheltered positions, but in cold districts require protection.

*Genista tinctoria elatior*, an upright form of the "Dyers' Greenweed," is a very useful late flowerer for August and September.

*Hydrangea arborescens grandiflora* is a handsome plant, bearing terminal heads of creamy white bracts. *H. paniculata* and *H. paniculata grandiflora* are fine for massing, and make a beautiful autumn display.

*Hypericum Hookerianum* is a beautiful plant, bearing an abundance of deep yellow flowers throughout September, as also do *H. Moserianum* and *H. patulum*.

*Solanum crispum* may be treated to a wall in cold districts, but elsewhere flourishes as a bush in the open. It is commonly called the Potato Tree, as the bluish-purple flowers resemble those of some potatoes. *Solanum jasminoides* is a very beautiful white flowered species, excellent as a wall plant.

*Spiraea japonica* in variety keeps up a display till quite late, and *Tamarix Pallasii rosea* should not be omitted for its feathery plumes of rosy pink flowers.

*Veronica augustifolia* is a mass of white spikes in September, and other members of the same genus, such as *V. Autumn Glory* and varieties of *V. speciosa* all carry the display on till late in the year. The varieties of *V. speciosa* are not hardy except in very mild localities or against a warm house, and therefore cannot be recommended for general planting.

*Indigofera Gerardiana*, of the Pea family, and hailing from the Himalayas, is attractive in its pinnate leaves and pale red blossoms, as also are some of the *Lespedezas* of the same family.

*Ligustrum lucidum*, although a "Privet," is not to be despised, as not only are the glossy green leaves attractive, but equally so are the thyrses of small, white flowers, reminiscent of a white Persian lilac.

*Lonicera japonica*, a sweet-scented honey-

suckle bearing pale yellow blossoms far into the autumn, is a desirable wall plant, attractive on account of its sweet scent.

*Perovskia atriplicifolia* is useful for late summer and autumn, forming attractive bushes of silvery grey, crowned with spikes of violet-blue flowers. A sunny position in light loam is most suitable for this pretty plant.

*Potentilla fruticosa*, always a neat and pretty shrub, continues to flower quite late. The variety *P. fruticosa arbuscula* is particularly good, of procumbent habit, the leaves and shoots furnished with fuscous brown hairs, and bearing large, deep yellow flowers.

*Salvia Grahami*, a shrubby sage suitable for a warm sunny spot, is highly attractive in autumn when well covered with its beautiful red blossoms.

*Spartium junceum*, the "Spanish Broom," is one of the very best late blooming shrubs we have, producing abundance of clear yellow flowers well into September.

## Propagation of Alpine Plants.

By REGINAID A. MALEY.

WHILE from a floral point of view there is now little of interest in the Alpine garden, this is, nevertheless, a very busy month for the gardener. At no time of the year can alterations and extensions be made with greater advantage than now, when many of our little plants are going to rest, and so can be more readily moved, while the unsightly appearance of our garden, which is inevitable when alterations are proceeding, is of comparatively little moment at this late end of the season.

Another great advantage is that any new rock work put up will be very thoroughly consolidated by the winter rains. I do not mean by this that any less care should be expended in ramming the new soil as tightly as possible behind the pieces of rock we are adjusting to form new shoulders or buttresses in the Alpine garden. Far from it, since the more firmly the soil is packed the more satisfactory will be the result.

Just now I am busy in my own garden in greatly extending my moraine. This has been so eminently satisfactory that I am making another adjoining it some three or four times the size, using very roughly-broken bricks for at least one foot deep at the bottom, to allow of copious drainage, with finer and finer grit as it approaches the top, while into the upper six inches I shall mix the merest suspicion of well-decayed leaf-mould and peat.

From the various moraines I have seen in other gardens it appears to me that too much fine material is allowed into their composition. From my own experience I believe that the merest trace of vegetable

matter is sufficient, and this "poor diet" helps very materially to keep the plants tight and compact in habit, and induces them to flower much more freely.

While it is often advocated that spring is the best time to plant Alpines, I do not think that it is a matter of very great moment (if they are in pots), provided such as have hairy or downy leaves are protected from undue overhead wet by a roof glass some little way above them, and I intend putting out my new moraine plants as soon as the alteration is completed, and the whole made as firm as ramming and watering can make it.

I believe that many plants, although ceasing to be active above ground when the autumn comes upon them, still continue busy below the surface, and in such a well-drained position as the moraine these roots should find their way deep into the gritty soil, so as to be able to withstand the drying winds of early spring and the hot sun of the following summer much better than if turned out into their new home just when these trying conditions are liable to suddenly come upon them.

Now, too, we should get in what cuttings we are desirous of taking of many of the shrubby and sub-shrubby members of our Alpine family—if we have not already done so—such, for instance, as the dwarf Conifers, *Cotoneasters*, *Cistus*, *Helianthemum*, *Lithospermum*, *Genista*, *Berberis*, *Androsace lanuginosa*, *A. sempervivoides* and *A. sarmentosa*, though, perhaps, the *Androsaces* are better taken a little earlier so as to get them rooted and potted up singly before the winter.

In the case of the *Cotoneaster*, &c., and such hard-wooded subjects, I select the fairly well ripened shoots of the current year's growth, about three inches long; trim the leaves off the lower two inches of the stem, and place these cuttings all round the edge of a pot containing very light, gritty soil, seeing that the cutting goes to the very bottom of each dibble hole, and that the soil is well pressed home to them. Very firm planting is, I believe, of great importance. Needless to say, ample drainage should be put into the soil first.

With such plants as the above, which may take some months to root, instead of putting into my ordinary seed frame I procure a box, some nine inches to twelve inches deep, partly fill it with fine ash or sand, and plunge the pots of cuttings in this, covering the top with a sheet of glass.

This makes an excellent close frame, and can be stored in some light place, but where the sun will not fall upon it.

If two cleats are nailed on to the bottom of the box, one at each end, and one or two holes bored in the under side, ample drainage will be secured, while the cleats will lift it clear of the moist ground.

One very thorough watering should be given the cuttings immediately after insertion, and then, if kept close, very little more will be required for some considerable time, the aim being to keep them always comfortably moist, yet never wet.

It is advisable to turn the glass lid over each day, so taking away the condensed moisture which accumulates on the inner surface, and at the same time giving the air enclosed in the box a change.



The principal enemy is liverwort or moss. This is best picked off with the point of a knife as soon as the smallest speck appears. Fine silver sand sprinkled one-eighth of an inch deep on the surface of the soil moderates this trouble to some extent, but nothing I have yet heard of will prevent its formation in the long run.

As soon as the cuttings appear to be making a decided move, a period varying with different plants, they are best potted up singly into small pots, and this change from their old quarters, if carefully done, often starts them growing more vigorously.

It is as well to keep them shaded for a few days after such removal.

The seeds which most of us have been collecting from our plants, as they matured during the summer and autumn, are best sown as soon as they are ripe—viz., a day or two after gathering, but should any of them still be unsown they should be put in at once. This is especially the case with such plants as *Meconopsis*, *Gentians*, and *Primulas*.

In many instances these seeds will take a long while to germinate, especially if kept for any length of time between ripening and sowing—while it is said that some *Gentian* seeds should *always* be exposed to the action of frost and snow.

Needless to say, these seeds should be sown in pots which should be scrupulously clean. It is advisable to put in nearly one-third of broken crocks, and then a thin layer of moss to keep the drainage open.

It is as well, I think—no matter what the particular compost the plant prefers—to keep it on the light and sandy side, and to thoroughly consolidate it in the pot before attempting to sow—especially with the smaller seeds.

It is by no means a bad plan to make up the pots and give them a good watering the day before the sowing is to be done.

Care should be taken to firmly fix a label (bearing the name of the seed, source of origin, and date of sowing) into the pot before putting the seed in, while the actual sowing with the smaller seeds is best done with a piece of paper folded to resemble a scoop or gutter, down which the seeds run freely and can be sprinkled regularly and *thinly* over the top of the soil, after which a surfacing of fine silver sand can be sprinkled on.

If the soil has not just previously been watered I prefer to stand the seed pots in a pan of water till it just shows moist through the silver sand; then stand to drain, after which they can be plunged in the seed frame and kept free from direct sunlight.

Personally, I use a frame, the plunging material of which is kept moist by means of a perforated water pipe, thus rendering overhead watering unnecessary, beyond an occasional syringing when the young seedlings appear to need it.

If watering by means of a can is necessary it should be done only with the *finest rose*, and then with great care, as it is extremely easy to swirl all one's seed—many of which are exceedingly minute—to one side of the pot, if not, indeed, out of it altogether.

Except in frosty weather I always keep the glass light on my seed frame, but so raised as to exclude

rain and yet admit air. When it is frosty or snow threatens I remove the light so as to give full play to the hidden forces which the low temperature is supposed to bring to bear upon the seeds, and certainly when the thaw comes it is frequently accompanied by a rapid germination.

If birds are likely to prove inquisitive, it is by no means a bad plan to replace the light with a wire-netting covered frame, otherwise our precious seeds may form a dainty repast for our hard-driven feathered friends, instead of starting to germinate under the snow covering.

When a goodly number of seedlings in any one pot are up, it is well to remove it to a frame where more air can be given, so as to harden the tissues of the infant leaves prior to handling them in pricking off, which latter I do irrespective of the time of year, though keeping them fairly close again to recover from the transplanting.

The greatest care should be exercised in handling the tiny seedlings, and they should be planted firmly, though not roughly into, say, thumb pots, three in each, round the edge.

Sometimes when any given batch has germinated more freely than usual, one wonders whether it is worth while pricking them all out when our own requirements are small.

I quite agree that "pricking off" is not a very soothing occupation, especially when the plants are about the size of a pin head, as is the case with many of the encrusted *Saxifragas*, when we remember, however, the great pleasure we obtain and confer, by passing on these small treasures to other gardeners later in the season, we shall, I think, hesitate to throw away even our surplus, unless it is of the very commonest plants, in which case we are hardly likely to raise them from seed.

It is, I think, advisable to prick off these seedlings *as soon as it is really possible* to get hold of them, and with some plants, such as *Saxifraga longifolia*, *S. Griesbachii*, *S. thessalica* and *Drabas*, they are extremely minute, but I have found that they suffer much less than if allowed to remain till they are larger, when their roots will have extended similarly and have become interwoven with those of neighbouring plants, to the detriment of both.

Plants like *Erinacea pungens*, most of the *Anemones*, *Onosmas*, and *Rosa alpina* make an enormously long root, often when the Cotyledons are only one-eighth of an inch above the soil the roots will be two, three and four inches long, and frequently almost fibreless. Any damage to the point of this checks very considerably, if it does not kill the plant, hence the advisability of early "pricking off."

It is well to bear in mind that many Alpine seeds have the quality of lying dormant for a very considerable time, and no pot containing valuable seed should be thrown away under two years. Often when a pot is given up as hopeless—nothing having appeared during, say, twelve or sixteen months—suddenly, for no apparent reason, quite a good crop will spring to light, so that it behoves us to be patient with our Alpine babies, if they do not appear as rapidly as we consider desirable.

## Gowran Castle Gardens, Kilkenny.

IT occurs to me, as I walk through, that in a few years this establishment will stand well in the front as a great fruit-producing centre.

From small beginnings, encouraged by success at various fruit exhibitions in England, Scotland and at home, the work has been carried on with great spirit by the manager, Mr. G. Roche, and his assistants. The area of fruit-bearing trees has developed wonderfully during the last few years. His endeavours have been strengthened by the appreciation and support meted out to him by Lady Annally and the much respected agent, R. White, Esq., who is also much interested in the development of the fruit industry in the County Kilkenny and in Ireland generally.

Good marketable fruit always commands a fair price and always pays for attention. There is a good deal of expense and trouble starting the work. Many are reluctant to plant, and consider the ground practically non-paying until the trees come into bearing; but this is a mistaken idea, and practical proofs are afforded here that such is not the case.

The demesne orchard of six acres planted last year with Cox's Orange Pippin, James Grieve, Newton Wonder, Worcester Pearmain, Gascoigne's Scarlet, Duchess' Favourite and Beauty of Bath, which are under close observation, and are doing well. The ground between the trees is planted with strawberries, anemones, potatoes, cabbage, turnips and mangolds, so there is no idle ground here.

The garden contains four acres. The main upper walk is planted on a border each side with Bramley's Seedling about nine feet apart, with top and side branches from one tree trained towards the next, forming a pretty piece of trellis work. They are bearing well and making vigorous growth, and this is the third year since planting. The centre walk—This work is

extended into pergola-fashion, and the trees from each side are trained overhead. Lane's Prince Albert is much in use for this work, and looks very pretty furnished with highly-coloured fruit.

In the mixed plot of bush trees, seven years old, some are carrying remarkably heavy crops of fruit; some of Bramley's Seedling were so large and highly coloured as to altogether alter their usual appearance. We were tempted to weigh one of these, and it turned the scale at 1 lb. 5 oz., and we could have found many

like it. Lane's Prince Albert as a bush plant is carrying a heavy crop, and presents a pleasing sight. On one of those little trees I counted 55 large, highly-coloured fruit, weighing the branches to the ground. There are 200 trees in the plot. Mr. Roche says, honestly speaking, he cannot show me where the best ones are, as they are all similar in bearing extremely large fruit. Peasgood's Nonsuch is bearing some very fine apples. Hamilton's Seedling, Allington Pippin, Kentish Fillbasket and James Grieve are all vigorous; we cannot say the same for Tyler's Kernel, which does well in other districts, but cannot be recommended in this locality. Cox's Pomona is a heavy cropper and a useful keeping apple, and with the Queen, Lady Sudeley, Golden Spire, Mère de Menage and Lord Burleigh, look splendid in the bright sunshine.

Loddington's Seedling is carrying large, well-formed fruit, is now seven years old, and evidently will do well in this district. Flower of Herts is likely to come into favour also, as it is growing well, and, as a dessert fruit, comes into season about ten days before Worcester Pearmain. Cox's Orange Pippin does well, and Charles Ross has evidently come to stay; it is carrying a fair crop of nicely-coloured fruit. One can see Golden Noble and Golden Spire, with Gloria Mundi, are attractive at a long distance. All these trees show the great benefit of root-pruning.

Among pear trees for heavy cropping "Conference" takes the lead; about 400 trees of this kind alone are



Photo by]

COPSALE GEM.

A good Pearly flowered Dahlia.

[Bakers

grown, and the planting of so many resulted from the continued heavy crops borne by a few trees that were first planted. There is a heavier yield of fruit on most pear trees, but the crops on the trees here are very remarkable. The lower branches are weighed to the ground; the upper ones, which were not supported or the fruit removed, broke with the weight they carried. Louis Bonne of Jersey grows well here. We cannot say the same for Uvedale's St. Germain, it is difficult to grow and very much subject to canker. *Beurré Clairgeau* does better with Pitmaston Duchess, Williams' Bon Christien, Catillac, Vicar of Wakefield. A small pear, *Comte de Lamy*, is carrying a heavy crop, and so is *Beurré Hardy* loaded with nice medium-sized fruit. *Beurré Diel* is a wonderful cropper, and grows well here. VICTOR.

## Paeony-flowered Dahlias.

By JAMES STANLEY BAKER, of Messrs. Bakers,  
Wolverhampton.

**D**URING the last twenty years continual change has been taking place in the Dahlia world.

Twenty years ago Show and Fancy Dahlias monopolised the attention of the growers, few plants of other types being grown. About that time the Cactus type began to be shown, but were very different to the narrow-petalled varieties grown at the present time. The petals were almost flat, except at the tips, and were very heavy in appearance. As improved forms were put before the public they gradually ousted the Shows and Fancies, until at the present time they are rarely grown, except by the enthusiast who exhibits them. The large, round heads are totally unsuited for cutting purposes, and for garden decoration they are little better.

As the Cactus type became popular, nurserymen gave their attention chiefly to raising large flowers for exhibition purposes. Their usefulness for garden decoration was lost sight of, the result being that the new varieties had immense flowers of good form and colour, but with stems so weak that the blooms were not held above the foliage, but were hidden. This gave the Cactus a bad name as a garden plant, and it undoubtedly deserved all that was said of it. Lately more attention has been paid to the decorative value of the plant, and the new varieties have stronger stems, carrying the blooms well above the foliage, therefore making the plant more valuable for garden decoration.

But although the Cactus type has been much improved, as garden plants they are much inferior to the new Paeony-flowered section, and are rapidly being ousted by this new type for garden and decorative purposes.

When this type was first introduced some five years ago practically the whole of the trade scoffed at this flower, but, seeing that its rugged appearance gave it considerable artistic claim, our firm determined to give it an extensive trial.

In the following season, both at our nurseries and at the various shows where we exhibited them, they attracted great attention. Encouraged by this we

determined to work on these with a view to improving them, and we were so successful that most of the best varieties in commerce have been introduced by us. These new varieties cover a wide range of colour, including many beautiful art shades, and for garden decoration in the late summer and autumn months, or for decorative work during the season, they are unsurpassed, and have fully justified their claim to be "The Dahlia of the Century," for while the popularity of other types has been waning, they have rapidly come to the front, and are now to be found in most of the beautiful gardens throughout the country. The petals are neither symmetrical or of the form of any other type of Dahlia, but they may be compared with *Paeony chinensis*, and in some cases with the Clematis. They are borne on long, strong stems, standing clear away from the foliage, the flowers being semi-double and the petals being curled and twisted in a pleasing and irregular manner. They are most floriferous, the plants becoming a mass of colour, and for garden decoration there is no other plant to equal them. For massing in beds for bold effect they are unrivalled, as those who saw the beds of Paeony-flowered Dahlias at Hyde Park, London, will fully agree. The big flowers are kept well up by their own stiff stems, and they are a long way clear of the foliage. These flowers are plentiful, too, and lasting. There is certainly room for the Paeony-flowered Dahlia in flower gardening.

If the Chrysanthemum is called "Queen of the Autumn," the Dahlia may be justly called the "King of the Autumn," for it is unrivalled during the months of August, September and October.

If I had to give distinction to any twelve varieties I should choose the following as being my favourites:

Codsall Gem, Countess of Lonsdale, Lady Allison, Lady Savile, Mrs. A. Worsey, Mrs. Carter Lewis, Mrs. Geo. Drummond, Mrs. T. G. Baker, Red Indian, Rev. Hugh Berners, Romolo Piazzani, and Sunset.

A few simple hints on the culture of the Dahlia may be interesting to your readers.

If the reader has a greenhouse or heated frame, he should secure his plants as early as possible in April, and pot on into six-inch pots, so that he may have extra strong plants by the end of May.

The ground should be prepared before planting time. The soil should be deeply dug, and a liberal supply of well-decayed manure worked in. Next drive a stout stake where each Dahlia is to be planted. It is much better to put the stakes in before planting, as by that method the plants are not disturbed and can be afforded support as soon as possible. Plant during the last week in May or the first week in June. Make the plants firm and tie to stake. If the weather is hot and dry give occasional waterings till established.

When the plants are one and a half to two feet high put in additional stakes to each plant, keeping the plants tied as they grow, or they may get broken by the wind.

If growing for exhibition the buds and branches must be thinned. As soon as the buds form give a liberal supply of liquid manure weekly. If grown for garden decoration they need little thinning, but are much improved by giving liquid manure occasionally.



## Roses.

By O'DONEL BROWNE, M.D.

NOW is the proper time to order what trees one requires for autumnal planting. It is no use sending an order in November or December and expect to get the pick of the nursery. By ordering now one is able to secure decent, respectable specimens according as they ripen off. There was a time when I used to order one or two trees of each variety, and were I to begin all over again I would do no such thing. If a variety is worth having at all you cannot have too much of it, whereas there are some varieties which are not worth while planting. True, if you have any amount of room, you may plant more and miss the space less, but most of the Irish rosarians' ground is limited, and therefore we require what we like best. Broadly speaking, rosarians' choices are divided into two groups—firstly, those that require exhibition flowers, and, secondly, decorative varieties. It is especially among the decorative section that one finds the worthless varieties. Many of them are flimsy thin-petalled varieties, whose beauty lasts for but a short while and then is gone. Against this argument the decorative Rose fanciers may put the plea, that this kind of Rose is more free-flowering in its habit. I agree with this, but the flowers themselves do not last so long, and vases need to be replenished the more often with a variety such as La Tosca than with a variety such as Madame Wagram or either of the Cochetts. Some people would say Madame Wagram is not kind in its services as a decorative variety. I cannot agree with this. As I write, there is a vase of this variety (and I honestly say that there is not a better autumnal variety in the whole rose world) standing in a patient's room, the like of which I have never seen elsewhere. The flowers are perfect, and each stiff-shooted truss has a few *lasting* blooms on it that are a treat to look at. Again, I hear a demur from some reader about Wagram being a bad opener in wet weather. True for you, reader, but where are the flowers which are not impatient of wet? Wagram is an obliging rose, in that the flowers come on enormously thick rods, and at the end of each rod there are four or five buds. If you thin too much you get a coarse flower, whereas by leaving a few you are able to dodge coarseness, and should the first opener gum up you have another string to your bow, which may open with a hot burst of sun. Planted on a south wall you get your best flowers, and you must indeed be hard to please if this very fine variety does not please you. Mr. Pemberton tells me that it is no use in autumn in England, I am sorry, but I am glad that it is good over here. As I have said before, I consider Madame Wagram, Comtesse de Turenne (to give her her full name), the best autumnal we have, and I certainly advise every reader to take me at my word and try it on a wall facing south.

Other fine autumnals we have, to wit:—Mrs. David McKee, Hugh Dickson, F. K. Druschki, Gustav Grunerwald, Dean Hole, Lady Ursula, George C. Waud, H. Armytage Moore, Caroline Testout. I hardly ever get a really decent flower off Druschki until the autumn, as my garden is too hot in early summer for it, and the

same remark applies to Hugh Dickson. This year I pegged Hugh Dickson down and I got flowers better in every way than heretofore, and now the great secondary rods are seven feet high and perfect flowers are on the top. The cool of autumn suits these varieties best—they do not like being rushed. With the advent of more Hybrid Teas, our autumnal flowering season is likely to be lengthened, and as the nights get colder one looks to the thinner petalled varieties to come and help us. It is here that varieties such as Anna Olivier, Harry Kirk, Killarney, Gloire de Chédane Guinoisseau, Charles J. Grahame, Avoca, Betty, Edward Mawley, Mr. Stewart Clarke, come to our help, but if wet weather comes you *must* shade the opening flower or all is lost. There is a charm about the autumnals which is very pleasant to a rosarian—they are the aftermath, the reminder of what flowers we have had, the refresher to our minds of what they have done for us; but, *horribile dictu!* they are the warners of what is soon to come in the shape of horrible, deathly gloomy winter, when our flowers still live in our minds, but, alas! none in the garden.

## The Culture of Border Chrysanthemums.

By W. A. MAXWELL, Coolfin Gardens, Banagher.

EITHER for cutting for decoration, for market, or for a display of flowers until frost cuts them down, no plants are more serviceable than border Chrysanthemums. In large establishments, where cut flowers are a necessity nearly all the year round, Chrysanthemums form one of the chief plants grown for this purpose, as by lifting them with a good ball of roots and plunging them in a cool peach-house, border, or in any cool greenhouse, flowers can be cut right up to Christmas, thereby saving and keeping up the show of Japanese and other varieties for conservatory work. These Chrysanthemums are quite hardy in Ireland, even in the coldest winter, but I have known them to be destroyed by frost in Scotland.

In the culture of Chrysanthemums much depends on the use of stout, robust cuttings, and the way in which they are struck. Where weak, puny cuttings are used, or the cuttings are struck in a warm, close atmosphere, they become more or less drawn during the process of rooting. Good strong cuttings should be taken from the base of a plant that has flowered, and should be inserted in boxes filled with good loam, some leaf-mould and plenty of sand. Keep the cuttings near to the glass to induce sturdy growth, as the nearer they are to the glass and light the less susceptible the leaves will be to damp. Only sufficient heat to keep out frost will be needed. As some varieties are shy in throwing up suckers it would be best to cut the plants down and plunge in a frame, watering carefully until a stock is obtained. Should the cuttings become affected with mildew I find a good plan is to dust with sulphur, which completely eradicates it. No great skill is necessary to grow border Chrysanthemums, as when cuttings are well rooted practically all trouble is over. When the cuttings are thoroughly rooted and about six inches high

the top should be pinched out: this ensures sturdy, bushy plants, which not only give more flowers, but the stopping also makes them come more even. One thing which must be guarded against, and which causes so much failure, is the planting out of young plants which have not been thoroughly hardened off. When the plants have been in a cold frame about three weeks the ground where they are to be planted should be given attention if it has not been done before. Chrysanthemums require a rich soil, although this must not be taken that they need a lot of manure, as there is nothing so detrimental to the welfare of Chrysanthemums as rank manure.

To be successful the ground should be prepared in winter, digging plenty of old rotten manure into it, leaving the surface quite rough until planting out time, which should be about the first or second week in April for early sorts, and first week in May for later varieties. Plant in rows, three feet apart, and two and a half feet between the plants; plant firmly, and put a strong stake to each, sprinkling water overhead. After warm weather give occasional waterings of liquid manure, and lightly thin the buds when about the size of a pea. When buying plants buy from a firm of repute, for it is better to pay a little more and get good stuff true to name.

## Hints to Amateurs.

By R. M. POLLOCK.

**BULBS IN FIBRE.**—This inexpensive way of growing bulbs for house decoration only requires a little careful attention to detail. "Bulbolin" and other excellent composts are prepared especially for the purpose. They are cheap, simple to work, and clean to handle, and they also remain sweet in bowls without drainage. Clean the bowls to be used, and fill about one-third with the compost. On this place the bulbs, allowing a small space between each bulb; cover and firm the mixture. It is well to give a slight watering before placing them in a dark room or under some form of covering, which will exclude the light for some weeks. The reason for covering them and keeping them in the dark is to force the bulbs to make roots before starting to grow, which they would inevitably do if left in the light. When the growth has appeared above the surface of the fibre and the bulbs feel firm, the bowls may be removed to a bright, sunny window, or a shed with a window, or, of course if available, to a greenhouse. They may be watered slightly again if dry, but it must be remembered that any compost specially prepared for bulbs in bowls is so prepared as to retain moisture, and excessive watering would rot the bulbs, as the bowls have no drainage holes. As to the bowls to use, the seedsman's windows at this time of year are full of bowls of all sizes, shapes and colours, and it is, indeed, difficult to select where quantity and quality are so lavishly displayed.

**BULBS IN THE GARDEN.**—These should be ordered at once, if not already done, and planted without delay.

**FRUIT.**—Apples and pears may now be gathered and stored. The success with which these fruits will keep

during the winter months very largely depends on the care they get at picking and storing time. Gather them carefully and by hand. It is to be hoped that no one still practices the old fashioned method of shaking the branches and gathering up the fallers! When picked they should be stored on shelves in a dark, dry frost-proof room or shed. The shelves should be clean, but there is no necessity to put straw or hay under the fruit, as this practice tends to give the fruit a musty flavour. Label each variety as it is stored, and see that only one layer of fruit is on each shelf. Be very careful to only keep the good, sound fruit. Damaged or blemished fruit should not be stored with the good specimens, but should be used as soon as possible, as it will not keep. When all the fruit is safely stored, the earlier varieties, of pears especially, will want careful watching, as they ripen quickly. Never gather fruit for storing during wet weather, and never store fruit that is wet.

Chrysanthemums may be brought into a cold house as the month advances and the nights get colder. See that all plants are carefully staked, and ventilate the house freely.

Cinerarias, Calceolarias, Primulas, and Cyclamen will be the better of slight heat, but care should be taken not to coddle them, so making them weak and sickly.

When weather permits lift all summer bedding and prepare for spring. A useful and interesting article, full of reliable information on this subject, will be found in this issue, and should be carefully studied.

When frost blackens the Dahlias they may be lifted and stored. Any vacant ground not immediately required may be dug and left in ridges during the winter months. Store all stakes and supports, &c., that have been in use, for next year. Keep the garden as clean and tidy as the autumn season allows, and save all leaves for mould.

## Hardy Geraniums.

GERANIUM FREMONTII.

**T**HIS and the following species are valuable subjects for late autumn flowering. The species under notice bears freely—soft pink flowers an inch or so in diameter and three cleft leaves, the segments also being toothed and the whole upper surface covered with soft hairs. A native of W. America, immensely valuable for the rockery in September.

GERANIUM WALLICHIANUM.

This is a Himalayan plant introduced about 1860 or 1820. It is of procumbent habit, bearing long-stalked leaves which are deeply cleft into segments, each of which is also toothed and sharp-pointed. The flowers, which are freely produced far into the autumn, are bright blue, the lower half of each petal being paler or nearly white and adorned with six to seven very fine reddish lines. This species is sometimes described as purple-flowered, and appears to vary from seed. Those who may not already have this desirable plant should ask for the blue flowered form when ordering.

DUNDONACHIE.

## A Few Notes on Strawberries.

TAKEN AT OUR NURSERIES DURING THE  
SEASON OF 1912.

THE fruiting season of 1912 was an abnormally early one, owing to the exceptionally hot weather in the early part of the year. Strawberries, on the whole, have not fruited at all well; this we attribute to the exceptional drought of last season, and the plants were so parched-up that it was an impossibility for them to form proper fruiting crowns. We should think not more than a third of the average crop was produced this season. This shortage is also accounted for to some extent by the spring frosts cutting the centre blooms of many of the early varieties; the later ones escaped, as they were not so forward; therefore, we should strongly recommend to plant some of the later sorts as well as the early ones, and a longer succession of fruit is thus secured.

From our experience, extending over many years, we are convinced that the great secret of success in strawberry culture is a change of stock. We cannot too strongly dwell upon this point, as we do not think strawberry growers are aware how essential this is.

Another point we should like to dwell upon is the necessity of not keeping plants too long; two seasons is ample for most varieties, at most three. Some varieties do best on the annual system—that is, planting thickly in beds and only allowing them to fruit one season. This more particularly applies to Royal Sovereign, as we find the finest fruit is secured from the maiden plants, but if required to be left the following season every other plant should be thinned out and the remainder left.

We have received many complaints as to the blindness of strawberry plants this year, and after repeated experiments we are convinced that this is not usually constitutional, but simply the fault of climatic conditions. The reason of the numerous complaints this year is undoubtedly last season's drought, which did not allow the young runners to form proper fruiting crowns.

On no account should we advise blind plants to be chopped up, neither do we find that the runners from these plants will themselves be blind.

The following varieties have done exceptionally well this year:—The Bedford, we find, is one of the finest and best flavoured maincrop strawberries we have yet raised. Laxton's Latest has also done exceptionally well; the new Utility is a very fine variety. Among the older ones, Royal Sovereign still holds its own as the best early. For flavour, Laxton's Pineapple is excellent, although not so large as some other sorts. Givon's Late Prolific is very large in the first fruits, but we find it has a habit of not finishing well—that is, the later fruits on the truss do not swell out properly; what appears to be a very heavy crop when in bloom is disappointing when the gathering season arrives. Of the new ones, King George V. is undoubtedly the forcing strawberry of the future; it is very much like

Royal Sovereign in appearance, but is better flavoured and quite as prolific, and if grown side by side can be forced nearly a week earlier. For flavour, the new Queen is really The Queen of Strawberries; it is also wonderfully prolific, and will grow almost anywhere. The Earl is also a very richly-coloured and highly-flavoured variety, and can be best described as an improved Viscountess. Of the Perpetual varieties, Laxton's Perpetual is undoubtedly the best and largest, and is fruiting exceptionally well with us here now. From our experience of varieties in various districts we would strongly advise growers to try



*EUCRAPHIA PINNATIFOLIA*

(Photographed at Glasnevin.)

various sorts, as strawberries vary very much in different localities and soils.

The great success in strawberry culture is to see that the soil is thoroughly well manured and deeply dug, and on no account should they be placed on ground that has previously been planted with strawberries, for at least three or four years. The plants should also be made very firm by treading each one carefully round with the foot after it is planted. Unless this is done the winter frosts are liable to lift newly-planted runners out of the ground. It is a wise precaution to look over late-planted runners in spring. We do not recommend deep digging between the strawberries on the older beds, but pricking the soil over two or three inches deep to bury the rubbish is quite sufficient. All runners should also be cut off the plants as they appear, as they only draw on the strength of the crowns.

LAXTON BROTHERS.



*Eucryphia pinnatifolia.*

AFTER most shrubs have finished flowering, this beautiful Chilean species produces a wealth of blossom about August time. The chaste white flowers are two and a half to three inches across, and contrast well with dark, glossy, green leaves, something like those of the Rose. In moist and favourable spots it thrives in a rich, loamy soil; in less favoured places, mixing plenty of peat with the soil will help to establish it. It is very local and rare in its native country, where it is said to grow ten feet high. In the north of Ireland it has already exceeded that height, and is thirteen feet high by twelve feet high through at Castlewellan.

Layering at one time was the only method of propagation, but many of the older plants have ripened seeds, and plenty of seedlings have been raised.

About the middle of September Mr. Coey of Larne sent flowers of a double flowered variety to me. Although one misses the beautiful golden bunch of stamens in the centre of the flower, yet this new double is not too heavy and solid, so should make a useful shrub if it proves as free-flowering as the type.

The *Eucryphias* have no near relatives, so various botanists have buffeted them from order to order. At present, I believe, they are placed with the Rose family, but have been in the Lime, Saxifraga and Hypericum families.

Four species are known—two Chilean and two Australian. *E. pinnatifolia* is the only one which sheds its leaves, but is the best of the family, with pinnate leaves; *E. cordifolia*, with simple leaves, something like an evergreen oak, but not quite so hardy as the first. Although this is a rarer plant in cultivation than *E. pinnatifolia*, yet it is not so beautiful, and up to the present it has not proved so free-flowering. Both in the north and south of Ireland specimens over eight feet high are to be found, but around Dublin it is not a success in the open. The two Australians are *E. Moorei*, with pinnate leaves, but not cultivated in Ireland; *E. Billardieri*, with narrow and simple leaves, said to grow to a tree nearly one hundred feet high.

C. F. B.

*Campanula acutangula.*

THIS new *Campanula* has been greatly admired at Glasnevin by those who are fond of Alpines. July is about its time to flower, but since then it has been giving a few flowers until the time the photograph was taken, in the middle of September. From a thick tap-root a dense mat of foliage is produced; the leaves are like tiny ivy leaves, half an-inch across, with stalks an inch long. The flower stems bear one or more open

star-like flowers each an inch or more across, and the whole plant is not more than three inches high. The flowers are of a good bluish purple—in fact, the colour is very similar, but perhaps a shade deeper than *Campanula longistyla*, which is flowering freely only a few feet distant. The calyx segments are narrow, with jagged margins and partly reflexed; both stem and leaves are glabrous. The plants seem to love the sun, and are growing in a gritty pocket in the rockery; the moraine would also be a suitable place for them. *Campanula acutangula* grows naturally in open stony places in the high Alpine regions of north Spain, and it seems easier to grow than its near ally, the Tyrolese *C.*

*Morettiana*, which grows in the cracks of calcareous rocks.



## BRUSSELS SPROUTS.

A WELL-KNOWN grower and exhibitor of vegetables recommends the following method for saving the best seed of Brussels sprouts:—Look over your plot and select four or five of the best plants with the firmest sprouts, and do not pull off a single sprout from these. The plot of ground will probably be required for another crop in spring, so take a barrow and a spade and lift carefully with a good ball of soil those that have been selected for seed and plant them in a place where they can ripen their seed. In March cut out the large terminal growth, and only allow the side hard sprouts to run to flower and seed. This of course means that you get quality of seed at the expense of quantity, but the grower of really good sprouts has proved that it is worth while going to this trouble.



Photo 111

C. F. B.

CAMPANULA ACUTANGULA.

## Good Bedding Plants for a Bad Season.

**E**VEN in such a trying summer as the past certain plants stand out as good "bedders" in spite of the rain and the adverse conditions. So it may be interesting to note certain subjects which have bravely stood the test at the People's Gardens, Dublin.

Going round with the genial superintendent he points out, with emphatic remarks, beds which in an ordinary season should be a blaze of colour, are just a mass of tangled green growth. The blaze of the *Geranium* is missing, and the gay orange pyramids of the *Streptosolen* are just caricatures of what they should be. The soft colours of the *Heliotrope* have weathered much better, and are quite pleasing.

The two carpet beds look just as bright and attractive as ever. One which has drawn considerable attention has a design with four shamrock leaves—"a sure sign that Home Rule is coming at last" was a remark heard by the superintendent. The shamrock leaves are worked in the dwarf green *Herniaria glabra* on a ground-work of the golden form of *Sagina pilifera*.

The other carpet bed was exceedingly bright with gay panels of *Alternanthera*. Remarking how well and bright these looked, the superintendent, ever ready to impart information, remarked: "Yes, we used to have trouble with the *Alternanthera* like most other people have, but now for any difficult plants like these we sterilise the soil, and have found this a great aid." The way it is done is as follows:—A frame four or five feet square, and about eighteen inches deep, is placed over a framework of perforated pipes, the frame is filled with soil and covered with a lid in which a hole is made for the thermometer. Hot steam is passed through the pipes, by means of which the soil is heated to about 214 degrees; as the time required is only about three minutes, a large quantity of soil may soon be sterilised.

Many hard-headed market growers are now going in for sterilising their soil for certain subjects, a sure sign that it is beneficial, and work that pays the grower.

Two edging plants which never seem to fail are the dwarf Sweet Alyssum and *Lobelia Waverley*. This *Lobelia*, Mr. Anderson considers to be far and away the best for bedding purposes. The new *Lobelia Cathcart* has been tried this year, and although the light blue is pleasing and may be useful, yet it does not compare favourably with *Waverley* for freedom in flowering.

*Calceolaria amplexicaulis* is a plant which has flourished this season; both old and young plants have been a mass of pale yellow flowers. But it is the *Fuchsias* which have really saved the situation this last August, the pyramids being as gaily-decked as ever with their bright-coloured flowers.

Marinka, a reliable free-flowering variety, with both sepals and petals red, is a favourite for bedding, good both as a pyramid or a standard. But this variety is surpassed by one rightly called "Charming," from top to bottom the plants were pyramids of flower. It should be truly charming next year when Mr. Anderson

hopes to show off its good points in a bed mixed with a lighter subject or a groundwork of some silvery-leaved plant.

Amy Lye is a large-flowering variety with white tube and sepals and a pink corolla, good also for exhibition purposes. Brilliant is a new variety which is to be tried as a bedder next year; as a pot plant it is very free-flowering and graceful in habit. The very large fat buds are an ornament in themselves even before they open and disclose the purplish corolla.

Two good hybrids from *Fuchsia fulgens* are President Gasselli and Audenken an Heinrich Henkel; they produce their long tubular flowers in greater profusion than their parent, and the colour is brighter, and both succeed well when bedded out in the summer.

"Queen of the Year" is the name of a variety of *Viola* of the *Violetta* type which has been most attractive by its succession of soft pale-blue flowers.

The hardy *Pentstemon Southgate Gem* was still good in September, and next year, when the plants are stronger, it will be still better. A most striking bed can be made with this *Pentstemon* and *Galtonia candicans* thinly planted through it. The graceful white bells of the *Galtonia* hanging over the rich scarlet of the *Pentstemon* is very telling.

Of late years a great improvement has taken place in the Snapdragons. Some very rich and bright colours may be found in the named varieties of the intermediate section which make good and cheap bedding plants. To flower early in the season it is best to rely upon autumn sown plants, so sow the seeds now.

Leaving the People's Gardens and going towards the Gough Monument, a glow of orange-red is seen; coming near, one sees a noble group of Red Hot Pokers or *Tritomas*, and never have we seen better. The variety is known as *Kniphofia aloides nobilis*. Imagine a group of twenty or so good clumps, each one bearing two dozen strong flower spikes about six feet high, and one may get an idea of the result.

## Cinerarias.

By W. H. GREENE, Hermitage Gardens, Dundrum.

**A**T the time of writing, these beautiful spring-flowering plants should receive attention with regard to potting, &c., if good plants are anticipated in the months of March and April. Their requirements are in no way difficult to understand. From the time the seeds are sown, which should be from the middle of May to June, they should be constantly kept in a good growing condition. Seed pans, one foot in diameter, clean and well drained, should be filled with a light compost, consisting of fine loam and leaf-mould, equal parts, with plenty of good, sharp sand added; thoroughly mix and make moderately firm within an inch of top of the pan. Should the mixture appear anyway dry, water thoroughly, and allow the soil to settle before sowing. When this is done cover the seeds with a quarter of an inch of fine soil, press gently to make the surface even, and water again lightly; place the pans in a warm, moist temperature. Under no consideration should the soil be allowed to

become dry, as this often proves fatal to germination. Hence failure. When the little seedlings show their first rough leaf they should be carefully transferred to boxes or pans in a similar compost, placing them two inches apart; water with a fine rose can and place them in a frame, which must be kept closed to maintain a moist atmosphere till the little plants have taken possession of the new soil. During this period close attention must be paid to shading, also to attacks of aphids. Should the plants become infested, fumigate lightly at intervals of two or three weeks. As growth advances and the plants have made a few leaves, potting will be necessary into pots four inches in diameter, adding a little rough fibrous loam to the previous mixture. To obtain good, healthy specimens they should never be allowed to fill the pots with roots until the final potting. If the plants are neglected at this stage they will flower prematurely, consequently, instead of the beautiful heads of handsome flowers, a poor, sickly specimen will be the result. The final potting is the most important. Pots ranging from seven to nine inches are quite large enough for the exhibitor or the amateur's conservatory. The potting material this time should consist of good, rough fibrous loam and old, spent mushroom bed. If this is not obtainable leaf-mould should be used in equal parts with sand, also a six-inch potful of soot to the barrow-load, and the same amount of an approved fertiliser thoroughly mixed. Clean washed pots, well drained, should be used. Care must be taken not to pot the plants too firmly or the large, fleshy roots will have difficulty in finding their way through the soil. When all are finished a good roomy frame in a shaded position will suit them admirably. Care must be taken with regard to ventilation and watering till the roots have occupied the soil. By this time plenty of air can be admitted. At the commencement of flowering weekly applications of diluted farm-yard manure water will greatly benefit the plants. With regard to varieties, each section has improved considerably of late years. The large-flowered are still favourites, of which many delightful colours can be obtained separately. Others, which should find a place in every conservatory, are the charming Cactus and the Stellata types, also one of the most decorative is called Vilmorin Blue.

## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.

THE cold nights and shortening days will now cause the foliage of many deciduous trees, shrubs and plants which have been green to change and become tinted with gold, crimson, purple, brown and intermediate colours, so that for a short time a beautiful effect is maintained, especially if some of the lovely berry-bearing plants are used for effect, such as *Cratægus Lelandii*, *Cotoneaster frigida*. The Mountain Ash and several of the *Berberis*

are beautiful just now, and add much to the beauty of the flower garden and pleasure grounds at this season. This change of scene also reminds us that many of the plants used for summer and autumn displays must soon be lifted and prepared for their winter quarters. *Salvia patens*, tuberous-rooted *Begonias*, &c., should be taken up as soon as touched by frost, gradually dried, and stored in a cool, airy room or shed until they are required in spring.

*Pelargoniums*, of which a sufficient supply of cuttings could not be obtained last month, can now be lifted and placed in pots or boxes in a warm greenhouse. They will supply plenty of cuttings next spring. Preparations can now be made for planting bulbs and tubers for next spring and early summer display. Beds and borders cleared of their summer occupants should be dressed with decayed manure, worked into a depth of not less than one foot. If the soil is at all heavy a little sand should be added. Plant early-flowering Tulips, such as *Duc Van Thol*, *Keizerskroon*, *Vermilion Brilliant*, *Pottelbakker*, white and red, and *Tournesol*. These are decided colours, and will be very bright in spring. Plant the bulbs seven or eight inches apart and from three to four inches deep. *Hyacinths* and *Narcissus* can also be planted. Towards the latter part of the month plant *Anemones*, *Turban Ranunculuses*, *Crocuses*, and *Snowdrops*. *Persian Ranunculuses* ought not to be planted till spring.

Beds of Tulips and *Hyacinths* can be planted over with Pansies, Daisies, *Myosotis* or *Polyanthus*, which will furnish the surface until the bulbs are up, and will keep the beds gay all through May, when the early Tulips and *Hyacinths* will be past. Cuttings of *Veronicas*, *Pentstemons* and *Culceolarias* can be inserted in cold frames, if not already done; water when the cuttings are put in; keep close and shade from the strong sun. Keep walks and grass clean by sweeping off fallen leaves, also remove decayed flowers and shorten back plants in borders which are quite past. By doing so it will add to the appearance of the autumn flowering plants, which will still be bright.

It is a good time to note any alteration in the arrangements of the herbaceous borders. Many of the stronger-growing plants often are inclined to overpower their weaker neighbours. This should be rectified later on.

## The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath,  
Killruddery, Bray.

APPLES AND PEARS.—Apples of first-rate quality are very scarce this year, consequently every possible care should be taken in gathering and storing them. Pears and apples ought to be examined on the trees about three times a week. Frequently serious mistakes are made in gathering all the fruits from a tree at the one time. If they are not in fit condition for picking you need not expect that they will keep in a nice eating state for a long period when placed in the fruit room, and it is quite certain that good apples will command a big price in the market from November to April.

You can easily ascertain when they are ready for gathering. If lifted gently to one side a ripe fruit will part freely from the wood, then handle them carefully, placing all sound fruit in baskets to keep them from getting bruised; then place them all in single layers on shelves or compartments. They do not need much light in the storeroom, though some air should be given,



and inspect the fruit occasionally, making quite sure that they are keeping properly.

Those who are contemplating fresh trees or new varieties should make out their selections without delay, and order early.

Cut away or burn old trees that are useless, for nice ones are cheap and are far more profitable. Transplanting operations may commence at the end of this month, and if your soil is unsuitable you can get together proper materials of various descriptions, including good loam mixed with half-inch bones, broken bricks, lime rubble, or bonemeal. Then have the places or beds got ready. When lifting your established trees of course much will depend on their size as to what distance from the stems you start digging. Give yourself plenty of room, and open out a trench two feet wide and nearly the same depth close to the limit of the root extension. Then use a fork, gradually working the soil loose from the roots into the open trench until sufficient is cleared for carrying the tree to its new position, when all damaged or strong roots should be shortened and pruned with a sharp knife. Spread them out at equal distance, and cover with soil. Now lay out the smaller fibrous ones, and make sure they are not bunched together. If possible select fine weather for the work, and do not forget that the future life and success of your trees will very much depend on the way planting operations are carried out.

The bright sunshine during September did immense benefit to all kinds of fruit trees.

**GENERAL REMARKS.**—Cut out the old fruiting canes of raspberries and loganberries so that the young growths may get a chance of becoming thoroughly ripened. Young trees of peaches and nectarines which have been unfruitful during the year have in most cases made much soft sappy wood. Then it will be necessary to root prune, or perhaps after inspection you may find it essential to lift the whole of the roots and replant them in fresh soil. This will involve a great deal of labour, but if it is done judiciously it always repays for any extra trouble.

## The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor,  
Co. Kildare.

**T**HE month of October is generally a slack one in the vegetable garden, for as the days grow short so does the work in the garden. Of course there will always be plenty of clearing up of leaves, especially in gardens where large deciduous trees are near. These should receive constant attention, as if many fall on beds of seedling plants and are not removed much damage may be done. All the work recommended last month and which has not been completed should be finished up as soon as possible, as the weather has been very dry for the past couple of weeks. Cabbage, lettuce, and onion plants in many gardens are very backward, although sown in July and early August, but get them planted as they become fit in well prepared ground, deeply dug and well manured.

**LETTUCE.**—These should be planted early in the month, and will give a good succession to those planted in September. Plant on a dry, warm, sheltered border, and if good hardy varieties, such as Hardy Green, Hammersmith, Winter Pearl, or Stanstead Park be selected, few plants will be lost during the winter.

**ONIONS.**—The ground for autumn-sown onions, whether they be Tripoli varieties or those usually sown in spring, as Ailsa Craig, can scarcely be made too

rich, and any plants not large enough for planting early this month can remain in the seed bed till February, running the hoe between the lines in dry weather to keep down weeds and help to promote growth.

**PEAS.**—During this month peas for the earliest crop next year can be sown, selecting one of the round-seeded, hardy varieties. William I. Improved I find a most useful variety. It is best to have the soil dug and manured some time before sowing, and in choosing the ground select the driest and most sheltered part of the garden. In sowing, open shallow drills one foot wide and two inches deep, drawing the soil up over the peas to cover at least three inches deep.

**CAULIFLOWERS.**—Transplant into frames cauliflowers raised from seed sown in August, and have the plants close to the glass. The soil in the frames should be a good, fibrous loam with little manure, made quite firm. The lights need not be put on the frame till frost is anticipated, and even then give air in all favourable weather. Any plants that room cannot be found for in the frame should be dibbled out at the foot of a south wall, where they very often stand the winter very well, if not severe and wet.

**BEANS.**—Broad beans may also be sown if Mazagan variety be selected; it is both hardy and early. Beans fit for pulling should be had next June. Plant in double lines, zig-zag, placing the beans four to six inches apart in the lines.

**BEET AND CARROTS** should be taken up and either stored away in a cool shed in sand or pitted like potatoes. The roots of the beet should be lifted carefully so as not to injure and cause bleeding. As the ground becomes vacant, trench or dig, leaving the surface as rough as possible, so that frost, snow and rain can penetrate most freely.

**AS PARSNIPS AND SALSIFY** are seldom if ever injured by frost they are generally left in the ground and raised as required for use.

During the past season I have visited very many shows, and after seeing the vegetables at these I have come to the conclusion that the year has not been a good one from the exhibitor's standpoint, as I have seen very few collections, large or small, that did not contain some inferior dishes of vegetables. At the August show of the Royal Horticultural Society of Ireland I expected, in the cup class, to see twelve good dishes, but this was not so. The first prize winner had very poor turnips and cucumber, coarse runner beans, parsnips and potatoes, and a mixed dish of tomatoes, while the winner of the second prize had very inferior marrow, poor peas and cauliflowers, the other competitors being even worse. Would it not be well if this society, in all its cup classes at least, had cards for the judges to mark the points of each dish in every exhibit, so that the public and exhibitors would know the point value of each dish, as at present the educational value of these fine exhibits are lost to all who visit the show? Next month I hope to say something about the many fine dishes shown in the first and second prize exhibits in the cup class at this autumn show, and also several good dishes I have seen in other classes at this show and elsewhere.



A **TRITOMA** with erect instead of pendulous flowers may seem rather an oddity, but this novelty, known as *Tritoma aloides erecta superba*, is quite a showy plant throughout September. It is a remarkably free-flowering variety, growing from three to four feet high, and bearing flower-spikes about a foot long. The flowers are a warm orange scarlet, and very attractive.

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## WATERFORD



# Irish Gardening

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## Shrubs for the Rock Garden.

By H. ARMYTAGE MOORE, Castlewellan.

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GARDEN

NO one who has given even cursory consideration to rock garden design—as distinguished from “rockery” erection—will have failed to realise the importance of the rightful use of the vast variety of hard-wooded plants, comprehensively referred to as shrubs. Those who have actually planned and planted such a garden will be the first to recognise them as indispensable, and even to style them the sheet-anchor on which to build. For, from the background, on the highest point of some bold rock-face where Pine, Cistus, or Genista may well be placed, down to the nearest foreground with *Cotoneaster adpressa* clinging to some surface stone, an invaluable array of shrubby plants are at our disposal. Whether for flower, fruit, or foliage the choice is wide, and even the most fastidious taste will find full scope for bold associations and delicate contrasts in all positions, from sun to shade, and from the open bog-bed to beneath the drip

of trees. Many a dry bank can be treated as effectively as the rich border of loam, and the wild seedling will often show how the barren crevice may be unexpectedly adorned. There is as appropriate use for the plant of rigid growth and formal outline as for the graceful and free-growing; for these of sombre greenery as for those light and feathery of flower.

In foliage alone an almost endless range of colour is available, from gold to silver, and through every shade of green and grey to the brilliant tints of Maple and



IN THE ROCK GARDEN AT ROWALLANE

Showing *Tiarella cordifolia*, *Daphne Cneorum*, *Iberis* Snowflake, and *Anubrieta* Lavender.

Azalea. But in flower the field is wider still, enabling the enthusiast, if so minded, to complete a good garden from shrubland alone. Yet the inexperienced may well receive a timely warning before making entry into so vast a kingdom, and by a hurried selection attempting to solve what can only be described as a difficult problem. It is well to remember that the appropriate use of shrubs is but seldom highly developed even in the pleasure ground, where

1912



the ubiquitous shrubbery is more often a tangled mass than a happy symmetrical group. In the rock garden it is still more rarely met with. Here, in association with stone and a probably purely artificial structure, many new considerations arise, calling for distinct and definite treatment; and the habit of a plant needs to be as carefully studied as its season of flower and colour of foliage if it is to be in strict harmony with its surroundings. Thus it will generally be necessary to consider, irrespec-

grouped about by *Anemone pulsatilla*, and one will remember *Cornus elegantissima* as a standard rising from a carpet of *Viola gracilis*. These simple things attract the eye at once, and demonstrate the delightful combinations available where shrubs are appropriately associated with suitable subjects. Definite arrangements will naturally vary with the scope of the ground at disposal. No hard and fast lines need be, or indeed can be, laid down. Individual taste must be left to reap its own reward; but



ANOTHER VIEW IN THE ROCK GARDEN AT ROWALLANE, SAINTFIELD, CO. DOWNS.

tive of flower, the habit of growth and the general effect of shrubs when viewed in conjunction with the bulbs and herbaceous plants, such as the Lily, Narcissus, or Primula, by which they may be surrounded. Many a good shrub unfitted to stand alone in comparative isolation may be the one thing needed to complete an effective group, just as some colours, garish in themselves, create a pleasing harmony in association with others.

After all, judicious combinations of plants, whether for flower or foliage, are the main factors in good garden effects. *Berberis aquifolium* alone, for instance, looks well, but it looks infinitely better when acting as a background to *Primula cashmiriana*. Similarly, *Magnolia stellata* becomes still more attractive when

whatever its limits, success will only be evolved from wide experience. This much may, however, be said—promiscuous arrangement will not do. Some definite design is necessary. The outstanding positions in the garden may at the outset be taken in hand with some distinct intention in view, and each should be separately developed, and should bear a suitable relationship to its neighbour and be in sympathy with it. No group, whether in colour of flower or habit of growth, should predominate at the expense of another adjoining. Each should assist and be supplementary to the other, creating a thoroughly homogeneous whole over which the eye travels smoothly without abrupt interruptions resulting from a series of ingenious and too startling

contrasts. Above all, let shrubs be so used as to soften the hard outline and help to clothe the bare places in the rock garden where finishing touches may be supplied by other plants.

To provide a representative list of shrubs for purposes and positions as varied as those to which they may be applied for the adornment of the rock garden would necessitate voluminous extracts from a comprehensive catalogue. Those enumerated below are merely designed to form a preliminary selection of hard-wooded plants easy of cultivation in the varied soils and aspects common to rock gardens of ample scope and reasonable pretension.

#### CONIFERÆ.

<i>Cupressus Lawsoniana nana</i>	<i>Pinus sylvestris globosa</i>
" " <i>Shawii</i>	<i>Retinospora Sanderi</i>
<i>Juniperus Sabina prostrata</i>	" <i>squarrosa sulphurea</i>
<i>Picea excelsa pumila</i>	<i>Thuya occidentalis</i> " <i>Little Gem</i> "
" " <i>pygmaea</i>	" " <i>globosa</i>
<i>Pinus sylvestris Beauvronensis</i>	<i>Thuyopsis latrevirens</i>

#### PEAT-LOVERS.

<i>Andromeda floribunda</i>	<i>Gaultheria procumbens</i>
" <i>cassinifolia pulverula</i>	" <i>trichophylla</i>
" <i>lentia</i>	<i>Kalmia latifolia</i>
<i>Azalea mollis</i> X <i>sinensis</i> hybrids	<i>Menziesia polifolia alba</i>
" <i>procumbens</i>	<i>Mitchella repens</i>
" <i>roscellora</i>	<i>Philesia buxifolia</i>
<i>Bruckenthalia spiculifolia</i>	<i>Polygala Chamæbuxus</i>
<i>Cornus canadensis</i>	<i>Polygonum vacciniifolium</i>
<i>Eukianthus japonicus</i>	<i>Rhododendron ciliatum</i>
<i>Erica carnea</i>	" <i>anthopogon</i>
" <i>vulgaris aurea</i>	" <i>racemosum</i>
" <i>Alporti</i>	" <i>intricatum</i>
" <i>Veitchii</i>	<i>Vaccinium Vitis Idæa</i>

#### EVERGREEN AND DECIDUOUS.

<i>Abelia rupestris</i>	<i>Hypericum Moserianum</i>
<i>Acer palmatum dissectum</i>	" <i>patulum</i> Henryi
<i>Amygdalus nana</i>	" <i>repens</i>
<i>Berberis buxifolia nana</i>	<i>Jamesia americana</i>
" <i>Thunbergii</i>	<i>Lithospermum prostratum</i>
" <i>Wilsonæ</i>	<i>Magnolia stellata</i>
<i>Cerasus Watereri</i>	<i>Mitraria coccinea</i>
<i>Cistus florentinus</i>	<i>Nierenbergia frutescens</i>
" <i>formosus</i>	<i>Olearia stellulata</i>
" <i>purpureus</i>	<i>Philadelphus microphyllus</i>
<i>Convulvulus Cneorum</i>	<i>Philadelphus Manteau d'hermine</i>
<i>Cornus Spæthii</i>	" <i>purpureo-maculatus</i>
" <i>Mas argentea variegata</i>	<i>Potentilla Friedrichseni</i>
<i>Cotoneaster adpressa</i>	" <i>Veitchii</i>
" <i>horizontalis</i>	<i>Prunus prostrata</i>
<i>Cytisus kewensis</i>	" <i>triloba</i>
" <i>schipkensis</i>	<i>Pyrus japonica pygmaea</i>
<i>Daphne Blagayana</i>	" <i>Simonii</i>
" <i>Cneorum</i>	<i>Rosmarinus officinalis prostratus</i>
" <i>Mezerium album</i>	<i>Rubus deliciosus</i>
<i>Dentzia gracilis carminea</i>	<i>Salix reticulata</i>
" <i>campanulata</i>	<i>Santolina chamaecyparissus</i>
" <i>kalmiflora</i>	<i>Senecio Grayii</i>
<i>Euonymus radicans kewensis</i>	<i>Spartium junceum</i>
<i>Eupatorium Weinmannianum</i>	<i>Spiraea decumbens</i>
<i>Fendlera rupicola</i>	" <i>Hacquetii</i>
<i>Fuchsia corallina</i>	<i>Stephanandra flexuosa</i>
" <i>globosa</i>	<i>Veronica carnosula</i>
<i>Genista pilosa</i>	" <i>Bidwillii</i>
" <i>prostrata</i>	" <i>selaginoides</i>
" <i>tinctoria fl. pl.</i>	" <i>glauco-corrulea</i>
<i>Helianthemum in variety</i>	" <i>Autumn Glory</i>
<i>Hydrangea hortensis Lindleyana</i>	<i>Viburnum Carlesii</i>
<i>Hypericum fragile</i>	" <i>plicatum</i>

## Seedlings in a Dublin Rock Garden.

By R. LLOYD PRAEGER, B.A.

IN most rock gardens, I imagine, self-sown seedlings are sacrificed to neatness. The trowel and spade are periodically at work on the beds, and the hoe and rake on the paths. In a large garden the use of these implements is, of course, necessary; but in the small rock garden, if one is contented to weed by hand, and to avoid disturbing the surface of beds and paths more than is necessary, a rich reward in the shape of seedlings of many kinds is the result. And not only are these seedlings invaluable for increasing or replenishing one's stock of plants—sometimes of species which are not easily increased—but one gets besides interesting natural hybrids, and there is always the chance of some really valuable new sport or cross. Some of the choicest of rock plants, such for instance as the Saxifragas, Faldonside, Cherrytrees, and Guildford Seedling, have originated in this manner as chance naturally sown seedlings.

My own rock garden is so small and so crowded that the use of gardening tools for weeding purposes is impossible, and in consequence I weed by hand and get abundant crops of seedlings on both beds and paths. I have studied these with great interest, and a brief account of them may not be out of place in these pages. I should much like to hear something of the experience of other rock gardeners in the same direction.

First, let me say that my garden is sunny and the soil a light, limy loam. Saxifragas, Sedums, Achilleas, and other grey-leaved things, and, indeed, all xerophilous plants are thoroughly at home, while moisture-loving or lime-avoiding plants, such as Primulas, Heaths, Himalayan Meconopsis, Gaultherias and so on, can be grown only in special peaty beds. It is among xerophilous plants, therefore, that seedlings are to be expected.

I may clear the ground at the beginning by mentioning some leading genera in which natural seedlings have not occurred. Although I have some twenty species of Achillea, I do not think I ever had a seedling of any kind. None out of fifteen species of Artemisia have sown themselves (except *A. mutellina* once), nor any of at least sixty species of Sempervivum.

Other barren genera are *Anemone* (few of them like my soil), *Phlox*, *Saponaria*, *Thalictrum*.

On the other hand, my most abundant and persistent weeds include *Acena* of several species; *Allium neapolitanum*, *Epilobium* (several of the tiny New Zealand species); *Erinus alpinus*, *Linaria alpina*, *Phyteuma* spp.; *Saxifraga* (mossies in variety); *Sedum glaucum*, *S. Telephium* and *S. Maximowiczii*; *Thymus Serpyllum*, *Tunica Saxifraga*.

Among the plants which sow themselves chiefly near the parent, and thus form colonies, are *Androsace Leichtlini*, *Arabis rosea*, *Arenaria verna*, *Asperula cynanchica*, *Calamintha alpina*, *Campanula alpina*, *C. barbata*, *C. longistyla*, *Corydalis capnoides*, *C. cheilanthifolia*, *C. ophiocarpa*, *Cuphea strigullosa*, *Dianthus carthusianorum*, *Erigeron philadelphicus*, *E. mucronatus*, *Gerbera Kunzeana*, *Linaria anticaria*, *Potentilla atrosanguinea*, *Pulmonaria rubra*, *Ranunculus graminifolius*, *Sagina Linnæi*, *Saxifraga Geum*, *Scabiosa alpina*, *Silene Monachorum*, *S. Schafta*, *S. compacta*, *S. flavescens*, *Sisyrinchium angustifolium*, *S. californicum*, *Telephium Imperati*, *Viola Munbyana*.

Other species—and as a whole they are not, as will be seen, plants with seeds which are lighter or in other ways prone to wider dispersal than those of the preceding list—appear here and there over a comparatively wide area, and explore by degrees the whole garden. Among these are *Ajuga pyramidalis*, *Armeria* spp., *Erythraea Massoni*, *Geranium anemonæfolium*, *G. ibericum*, *Hieracium* spp., *Hypericum fragile*, *H. orientale*, *Papaver rupifragum*, *Saxifraga aizoon vars.*, *S. rotundifolia*, *Veronica Bidwilli*.

It is interesting to note that certain garden "varieties," which are in many cases mere sports, have come true from self-sown seed. Among these may be mentioned *Arabis albida pumila*, *Dianthus deltoides albus*, *Geranium macrorrhizum variegatum*, *Potentilla fruticosa Friedrichseni*, *Ruta graveolens variegata*, *Sagina pilifera aurea*, *Saxifraga muscoides atropurpurea* and *Rhei*, *Sedum spurium splendens*, *Thymus citriodorus argenteus*.

Lastly, a word as to hybrids or varieties which have appeared spontaneously. Of the puzzling genus *Armeria* (now *Statice*) or Sea-pink I have had at various times, I suppose, a dozen species differing mainly as regards the breadth of the leaf and the height of the flower stem. They are mostly short-lived

plants, and as the old ones have died seedlings have sprung up here and there to take their place. These represent almost every gradation from one end of the series to the other, and it is not possible now to put upon them the names (mostly inaccurate) under which the parent plants were received from various nurseries. The mossy *Saxifragas* have, of course, crossed endlessly; among the more interesting natural seedlings are a good *Rhei superba alba*, and an excellent dwarf-red near *Miss Stormonth*. A few years ago I brought *Sedum maximum*, with greenish-yellow flowers, from the shores of the Baltic near Dantzig. This has crossed with forms of *S. Telephium*, giving tall plants with flowers of varying shades of pink and greenish-pink, some of them very effective.

Among the more interesting plants not mentioned above which have given me self-sown seedlings are:—

<i>Ethionema</i> , 3 spp.	<i>Linum flavum</i>
<i>Acantholimon glumaceum</i>	„ <i>narbonense</i>
<i>Antirrhinum glutinosum</i>	„ <i>perenne</i>
<i>Alchemilla alpina</i>	<i>Micromeria Piperella</i>
<i>Arenaria montana</i>	<i>Ononis retundifolia</i>
<i>Arabis aubrietioides</i>	<i>Onosma stellulatum</i>
<i>Carex Pseudo-cyperus</i>	„ <i>Bourgæi</i>
<i>Campanula bononiensis</i>	<i>Oxalis valdiviana</i>
<i>Cheiranthus Allioni</i>	<i>Polemonium reptans</i>
<i>Codonopsis ovata</i>	<i>Polygonum Brunonis</i>
<i>Colobanthus acicularis</i>	„ <i>sphaerostachyum</i>
<i>Draba lasiocarpa</i>	<i>Potentilla villosa</i>
<i>Erodium daucoides</i>	<i>Primula elatior</i>
„ <i>hymenodes</i>	„ <i>frondosa</i>
„ <i>Manescavi</i>	„ <i>japonica</i>
„ <i>trichomanæfolium</i>	„ <i>sikkimensis</i>
„ <i>Semonovii</i>	„ <i>Veitchii</i>
<i>Erysimum Kotschyannum</i>	<i>Reseda glauca</i>
„ <i>pulchellum</i>	<i>Romanzoffia sitchensis</i>
<i>Geranium argenteum</i>	<i>Satureja pygmaea</i>
„ <i>sessiliflorum</i>	<i>Saxifraga cuneifolia</i>
<i>Geum coccineum</i>	„ <i>erosa</i>
<i>Globularia trichosantha</i>	„ <i>Forbesii</i>
„ <i>Willkommii</i>	„ <i>trifurcata</i>
<i>Helianthemum polifolium</i>	„ <i>Wallacei</i>
„ <i>vineale</i>	<i>Sedum Cepaea</i>
<i>Helleborus corsicus</i>	„ <i>dasyphyllum</i>
<i>Horminum pyrenaicum</i>	„ <i>multiceps</i>
<i>Hutchinsia alpina</i>	<i>Silene alpestris</i>
<i>Hypericum Coris</i>	„ <i>multicaulis</i>
„ <i>kotschyannum</i>	„ <i>pusilla</i>
„ <i>olympicum</i>	<i>Statice bellidifolia</i>
<i>Lavandula</i> spp.	„ <i>occidentalis</i>
<i>Libertia ixioides</i>	<i>Wahlenbergia</i> spp.
<i>Linum austriacum</i>	

I have omitted the names of fifty or more other species which seed in most gardens where they grow, and on that account need not be mentioned here.



## The Orchard House.

By D. McINTOSH, Danum Gardens, Rathgar.

THOSE who have had the pleasure of visiting some of the finest shows throughout the country cannot fail to have been struck by the many fine dishes of apples and pears set up at these exhibitions. Such beautifully-coloured, high-class fruits can only be produced with the aid of an orchard house. This structure is best erected on a site running north and south, accommodated with plenty of ventilation at command, both top and bottom, and a double flow and return heating apparatus. Good fruit trees can now be purchased from any reliable nurseryman. Pots, varying in size from eleven to thirteen inches in diameter, are usually found large enough for newly bought-in trees. Where pot trees are grown on from year to year one of the most important operations in their successful culture is their annual repotting and top-dressing. October is the best month to accomplish this work. Peaches and nectarines should always be taken in hand first; then follow on with plums, cherries and pears, and lastly, that of apples. In selecting the soil it is essential to procure good, fibrous loam, fairly heavy, but not clayey. Do not break it up too fine, but rather have it cut up in the form of lumps, as the roots will adhere to them far better. The potting compost should consist of two-thirds fibrous loam, one-third well-decayed horse manure, a little old lime rubble and a good sprinkling of bonemeal and soot. The lime rubble will prove beneficial at the stoning period. Watch that the trees are not potted too deeply, but only sufficiently to ensure that the surface roots are just covered. Care should always be taken in repotting and top-dressing to ram the soil firmly. Having repotted or surface-dressed, according to each plant's individual requirements, plunge the pots outside again, in a sunny but sheltered position, two-thirds their depth, but first putting into the hole a spadeful of ashes, to keep the worms from entering the bottom of the pot. From now onwards until February they will need little further attention, except keeping an eye to the watering; but should hard weather set in, cover the pots with a good layer of dry litter to prevent them bursting by frost. While the trees are situated outside, the orchard house may be conveniently used for Chrysanthe-

mums and other greenhouse plants and shrubs. In February, any pruning that the trees require must be duly attended to, if the weather is not too severe. As the different trees show signs of flowering bring them in to their allotted space in the orchard house. Ventilate freely on all favourable occasions, leaving a good opening on the top at nights also. When the blossoms begin to expand a buoyant air must be maintained, and if dull, sunless weather prevails, a circulation of heat in the pipes will be found a necessity. It must be borne in mind that air is an essential for the setting of these fruits. If bees are not over numerous at this period artificial means of fertilizing the flowers must be resorted to. A rabbit's tail, tied on to the end of a bamboo cane, makes an ideal fertilizer. This operation should be practised every day until the flowers are well set. A temperature ranging from forty-five to fifty degrees will be adequate at this stage. Cold winds must be avoided at all times. Syringe in the mornings and afternoons if the weather is fine. Fumigate without delay on the first appearance of fly. As the fruits increase in size gradually inure the trees to a warmer atmosphere. Feeding can now be commenced by applying weak soot-water and liquid manure each once a week, slightly increasing the strength as the fruits increase in size. With the approach of the stoning period, leave off the feeding for a month or so, with the exception of apples and pears, which should be fed almost from the time the fruits are set until they are almost ripe. When the stone fruits have finished stoning a closer atmosphere must be maintained. Shut up the house in the afternoons, but well syringe the house before doing so. An excessive temperature must be avoided, as it only tends to premature ripening. Pinch the strong-growing shoots of apples and pears when they have made four or five leaves to assist the weaker ones in vigour. At this stage, when the fruits are swelling rapidly and, therefore, require abundance of water and stimulants, it is a good plan to secure a quantity of fresh cow manure and mix it with a little soil and soot. Place this mixture around the outer top part of the pot, in ridge form, making it smooth and even as the work proceeds. This addition will allow a little top-dressing around the stem of the tree, always bearing in mind that sufficient space must be left for feeding and watering. Assuming that

most of the fruits are wanted to ripen in August, some of the trees, according to the variety, must be removed out of doors and the pots plunged two-thirds their depth in a bed of ashes, situated in a sunny, airy position. Choose, if possible, a dull, but warm, day for this removal. If the sun be very hot within the next few days, partial shading during the hottest part of the day must be attended to, otherwise the foliage and fruits will burn, unless they are gradually inured to the outside conditions. See that the fruits are made secure against high winds. With their transfer out of doors, it will not be long before the fruits possess a fine bloom and a highly-coloured appearance. If everything has gone on well from the start, and every cultural detail carefully and duly performed, some fine quality and beautifully-coloured fruits should now be the pleasing results of all extra labour and care bestowed upon them. Among the choicest varieties of fruit the following are best adapted for pot culture :—Apples—James Grieve, Lady Sudeley, Rival, Ribston Pippin, Cox's Orange Pippin, King of the Tompkins County, Emperor Alexander, Gascoigne's Scarlet Seedling, and Peasgood's Nonsuch. Pears—Souvenir du Congrès, M<sup>me</sup>. Treve, Marguerite Marillat, Beurré Superfin, Conference, Pitmaston Duchess, Doyenné du Comice, Durendeu and Beurré Diel. Plums—Transparent Gage, Oullins' Golden Gage, Jefferson, Kirke's Blue, Coe's Golden Drop and Grand Duke. Cherries—Early Rivers, Governor Wood, Géant d'Heldefingen and Bigarreau Napoleon.

### Obituary.

WE regret to announce the lamented death of William Baylor Hartland, which took place at his residence on September 15, at the age of 76 years. The deceased was born at Mallow, Co. Cork, in 1836, and started in business under his uncle, a seedsman in Cork. In 1878 W. B. Hartland commenced business on his own account at Ard Cairn, Ballintemple, and here he began to collect and cultivate Daffodils and Tulips, and endeavoured to draw the attention of the public to the flowers. He published the first-known catalogue of Daffodils in 1884, a copy of which may be seen in the British Museum. The Cottage Tulips were Mr. Hartland's favourites, and he was instrumental in introducing many good varieties, such as The Fawn, Fairy Queen, Royal Visit, Mrs. Keightly, Ixioides, &c. Mr. Hartland was very enthusiastic and impulsive, of poetic tendency, and full of ideas. He will be sadly missed by his friends and acquaintances.

### Bog Deal.

By A. E. MOERAN, Stillorgan.

THIS is a subject of such fascination that I cannot resist the temptation to boldly plunge into it, though feeling many qualms that I shall but display an ignorance that I really keenly feel, and deplore ; my only safeguard being—I say it with the utmost humility—that some of the readers of IRISH GARDENING may be even more ignorant than I am myself of the many problems stored for safe keeping in those great national museums, our turf bogs. I would like to vindicate myself by saying that my ignorance is not the result of indifference. I have tried to find books that would tell me of these secrets but failed. Perhaps they exist, but I have been unfortunate. And I have gone to people that I thought very wise (and who looked so stupid that they must have been very wise indeed), and I have said to them—"Please, I want you to tell me all about the bogs—how old are they, and how old are the great trees down at the bottom of them? And why did the trees die and the bog come to life and grow? Again, why did the bog die and a new crop of trees come to life six feet over the old forest floor, only in turn to die and be swallowed up by more bog? The first six feet of bog could not grow unless it was very wet and squidgy, and the second crop of trees could not grow unless the bog was quite dry and firm. What made it get dry and firm and then get wet again? And sometimes there is even a third crop of trees higher up still. And how is it, if the bog grow over the trees out of nothing at all except just wetness, that there is a million tons of firm dry peat in that bog there? Where did it come from? And how did the bog grow quick enough to cover up the trees before they decayed? For, look! on this bog deal stump just uncovered the bark is fresh and red, and sticks tight to the timber below it, which is as hard and sound as if alive, while on that Scotch fir standing there, the very same kind of tree, and which is only dead a year instead of a thousand years, the dry, colourless bark flaps loosely over sap wood that is already softening for decay?" All these questions I asked the wise men, and a great many more as well, but they only blinked at me and said—"Yes, yes, we will tell you some other day, but we are busy now—run away and play," or words that came to very

much the same thing. And so I went away and rooted about among the turf banks—it is more interesting than any play I know—and though I worried out much that I can understand there is still a great deal that is “wrop in mystery” for me.

Long, long ago Ireland had only two kinds of forest trees to boast of, and yet she had vastly more reason to be proud of her forests than in present days. There was the oak, and there was the tree we call Scotch, or Scots fir or pine. They were mixed on the lowlands, but up over the wide moor and mountain lands, league after league, the pine held undisputed sway. Here and there a purple peak lifted itself clear of the last wind-beaten climber, and here and there the steep grey rock showed boldly through the green, and here and there hazel and holly and mountain ash and yew claimed and kept a foothold, but it was pure pine forest, the same pine that stretched right across northern Europe and Siberia. The “tree of mountain race” that began at Valentia and ended at Port Arthur.

And of these great pine woods what remains to us? We have plenty of examples of natural oak, poor stuff in comparison to the magnificent oak, the last of which was cut for the wooden walls of England, France, and Holland, but still real wild wood. And we have plenty of wild hazel and yew and mountain ash and holly, but, strange as it may seem, the great pine woods have gone so utterly that in all Ireland we cannot point with any degree of certainty to one single tree and say—this was self-sown through the generations and was never planted by man. At Doneraile, Co. Cork, Lord Castletown has trees which perhaps are exceptions. They are splendid trees, and I should like to believe that they are genuine Irish pine.

Were it not for the records kept by the silent, devouring bog we might almost wink our eyes and think of those great forests as of a fairy tale; but it makes them very real to go down into the cut-away bog and study their life history as writ there for those that can read it. See this huge old stump with its gnarled roots still bitten deep into the mineral soil below the peat! Face over the top with an axe, so that we may guess his story—one hundred and seventy rings in all—a fair age—but I have counted two hundred and forty in a bog stump. For a hundred years he stood one of

an even, aged wood. We can tell that by the regular concentric rings, getting closer and closer as the struggle for room overhead accentuated, and a sudden increase in growth where he got room from the blowing down of a neighbour. At one hundred, something happens. A sudden check all round the circle, but on the east side most marked—there three or four rings seem almost fused into one, and they are crumpled and bulged. That is not the result of a storm, but fire—fire leaping before a dry east wind, scorching and charring the stout bark, and all but ending the story there. He just pulled through after several years of convalescence, but all his generation were killed, for all the stumps thick around us date from the fire—seedlings that came up on the burned over ground, and but seventy years old when the final catastrophe came.

To foresters it is of special interest to study the growth of some of these vanished forests. Our present-day Scotch fir has fallen into evil repute as a timber producer, though the imported Scotch fir (red deal) from North Russia fetches fabulous prices. Some people contend, and I among them, that if we plant the tree on the right site and treat it right we can grow red deal to equal the imported timber. I am carrying out tests to prove my point; but of this another time. Here in the bog timber, at any rate, we can find trees to rejoice our hearts. Try the axe on that half-buried log. It rings as if an oak. Tear out a sliver from the red-brown wood that smells fresh and clean like pine shavings in a carpenter's shop, and you can tie knots with it like any ash. Fifteen rings to the inch it averages; good enough for anything, though I have counted thirty-five to the inch in bog deal. In actual use for building timber, as tested in many a house in the west of Ireland, no imported red deal is superior, if indeed it is at all as good, as the bog deal sawn and seasoned.

If we could reafforest our hills with timber as good as nature grew there of old times we should have no reason to be ashamed of our work.



#### EUCRYPHIA PINNATIFOLIA.

SOME years ago I remember seeing a grand *Eucryphia pinnatifolia* in the gardens of Sir John Ross of Bladensburg, at Rostrevor, Co. Down, and I am now informed that this shrub is twenty-five feet high, which is probably a record for Ireland and Great Britain.—C.F.B.



## Hints for Amateur Rose Growers

THE time of year is now arriving when those to whom the culture of roses is a matter of any interest should begin to consider the ways and means to this end. In the first place, it must be borne

almost certain to lead to unsatisfactory results, and perhaps to a conclusion that the fault lies in the site chosen, or to the rose trees which were supplied, or to some other obscure cause; and it is only after courting failure in this way that many novices realise that the error lay somewhat nearer home.

A SUITABLE SITE.—The first care, therefore, of an amateur desirous of growing roses successfully should



DUCHESS OF WESTMINSTER.

A tree blooming H. T. Rose the flowers are clear rose-madder, large, well-formed and sweetly scented. Raised by Messrs. Alex. Dickson & Sons.

clearly in mind that in order to ensure success in this department of horticulture, as indeed in any other, a careful forethought must be exercised in order to achieve it. A too common practice with many amateurs is, unfortunately, to suddenly make up their minds, on reading some alluring advertisement of roses, to forthwith order them to be sent along, and then when they arrive to hunt around the garden for likely-looking, unoccupied spots in which to dig holes and bury the roots. Now, this rough and ready method is

be to choose a proper place for them. I think it is Dean Hole who recommended that the ideal position is one which, while it is sheltered from harsh winds, should receive the full benefit of the sun from its rising to about a couple of hours after mid-day. In any case, however, it is imperative that roses get a generous amount of sunlight, in order that the wood may be thoroughly ripened and sturdy growth encouraged. Now, it is rarely that one finds an average suburban garden without some portion which will answer to the

above requirements in a greater or less degree, and that beautiful blooms can be produced in the neighbourhood of large towns, many examples in the large shows can testify. The first condition being satisfied, therefore, the next must be considered, which is the preparation of the soil.

**THE SOIL.**—The ideal soil for roses is undoubtedly a yellow clay with streaks of black in it—the sort of soil, in fact, which the ordinary man with a back garden reads about, wishes he had, but rarely gets; but, in reality, roses can be got to grow in almost any soil if ordinary care be exercised in dealing with it. To the man, therefore, with any ordinary clay less difficulties are consequently presented than to one who is the possessor of a gravelly or sandy soil, as in this case it will be necessary to improve it by the admixture of clay.

**ITS PREPARATION.**—It is well, if possible, to devote one or more beds exclusively to roses, and not to mix them up promiscuously with other subjects. Roses are voracious feeders, and quickly resent the withdrawal of their nourishment by other plants. Well dig the plot selected two spades deep early in the autumn before the ground gets sodden, and mix some well-rotted horse manure with the bottom spit. This is really of importance, as the roots of roses always work their way down to this point; and if when they get there nothing is provided for their sustenance, that particular tree will not grow exhibition or any other kind of blooms worth showing to the individual across the road, who is also having a shot at rose growing.

**THE HOLES.**—I have seen it argued that it is better to dig the holes intended for rose plants square and not round. The point is, perhaps, a trivial one, but whether the holes be square or round, let them be wide enough to take the roots so that they can lie out straight without touching the sides; moreover, let the centre of the hole be a little higher than the outside, so that the tips of the roots will point down and not up. Care should also be taken to see that they are just deep enough to allow of the point at which the rose is budded on the stock being buried an inch or so under the soil, which may induce an additional root action to be set up from the rose itself. Finally, do not cramp the plants too closely together, but allow eighteen inches at least from plant to plant, and give the stronger growers more space. These suggestions are obviously commonplace, but are nevertheless of importance, and are apt to be overlooked when, say, a dozen or more plants arrive and no provision has been made for their reception.

**THE RECEIPT AND PLANTING OF THE TREES.**—Most rose catalogues give a warning against planting out in wet or frosty weather. After unpacking, the roots should be immersed in water for an hour or two. Each plant should then be examined, and any injured portion of the roots cut away with a sharp knife, and if the ground is sufficiently dry they may be planted at once. If the weather is unpropitious, however, it will be better to dig out a trench in some sheltered spot and "heel" them in until conditions improve. By "heeling" is meant that the plants should be put in singly in a slanting position as close together as they

can be arranged. When planting, the soil should be carefully laid over the roots, and before treading it in shake the plant a little, so as to settle the soil around the plant. If the manure has been used, as suggested above, none will be needed now, but in any case, care must be taken to see that none comes in direct contact with the roots. Let them find their own way to it, which, when the plant is established, they will do quickly enough. Do not apply any artificial stimulants the first season after planting, as by that time sufficient root growth has not taken place for the plant to take advantage of it.

**A WARNING.**—Most amateur gardeners suffer from this failing—that they are afraid to use the pruning knife on their rose trees. Now, in addition to shortening about one-third of the long growths immediately after planting (which will prevent the plant being blown about by the winter winds), it is necessary, if a rose tree is to have any career at all, that it be cut right back to the ground in the spring of the following year after planting, or as soon as growth commences, if the roses are planted in the spring. There must be no half measures in this respect. Let the medium growths be taken back to one or two "eyes" or dormant buds, and the very strong ones to three or four. This will enable the plant to devote all its early energies to the formation of root growth, which will be a reserve fund on which it may draw when the real business of its existence is to the fore—namely, the production of such roses as may, if its possessor wills, be fit to grace an exhibition board. F. C. P.

## Climbing Roses.

By O'DONEL BROWNE, M.D.

**ALTHOUGH** I have, before this, written about climbing and rambler roses, yet I feel that the demand for climbers is on the increase, and so I may be pardoned for again approaching this most fascinating and beautiful class. The uses of the climbing section are many, in fact this section may well be classed as the most useful one which the rose world can give us. A few years ago one noticed the climbers were conspicuous by their absence; now the reverse is the case, and long may it continue. But we must remember that ramblers have often been barbarously treated and asked to do too much. A bare wall has to be covered—shove a climber there; a dead tree has to be enriched with flowers—dump a climber down. And yet, strange to say, the climber usually obliges us, but it should not do so if it were mean. Ramblers are just as fastidious as dwarfs, in fact more so, inasmuch as they have to make more wood and give a greater abundance of blooms. How then should they be treated? Good, strong, healthy plants should be ordered from a reliable source. Before the order goes one should seriously consider when one requires the plant to bloom, for some are summer-flowering and others autumnal, and some are perpetual. "My gardener tells me my climbers were very good this year, but I was away from home," is a remark which I often

hear. My answer is why not plant varieties which are due to bloom when you will be at home? When ordering, state in your order when you require the flowering season to be at its best, and leave all to vendor. Now prepare your ground thoroughly. If you mean to do your plants well, trench your ground deep. Take out a hole 2 feet wide and 2 to 3 feet deep. See to your drainage, and if the soil is good replace it, adding a good measure of well-decayed manure to the soil, keeping the greater part down deep. If the soil is weak and poor, try and get some good soil elsewhere. Allow this soil to settle ere you plant, and at the time of trenching, place in the hole what support the climber needs. Choose a good day to plant, and carefully spread out your roots as widely as possible. If the plant is budded, place the bud about 2 inches under the soil-level. Add some soil and tread lightly; add more and tread firmly. Do *not* place roots near manure on any account. Tie your plant lightly to the stake to prevent the wind blowing it about. In the following spring cut the heart and soul out of your plants. Above all things do not expect your climber to flower well from the rods you tied up at planting time. Again, I say, cut them very hard, and coax your plant by all means in your power to make all the growth it can. Carefully lay these rods in to their stake, and do not allow too many to come. In future years your treatment must be this: Lay in the best ripened shoots in their entirety, removing the unripe and frost-bitten shoots and tips in the spring. Cut away all wood that has flowered the previous year (this rule has its modifications when you are treating some varieties, *e.g.*, Banksians) to the very base of the plant. Keep a very sharp eye out for greenfly in the spring. Get your "Abol" mixture and spray. From time to time tie in your rods so as to prevent them rubbing against each other. Let them get all the sun they can to hasten ripening. Cut your flowering trusses and remove the wood that has flowered as soon as it has finished. The young rods laid in will be your flowering timber next year. When cutting your flowers do not cut them on the flowering rod, as trusses so cut do not last well. In a few years' time you will find your plants have become "leggy," by this I mean that the base of the plant has become bare. This is unsightly, and can be remedied in three ways—(1) by bending down young wood to clothe the base; or (2) by removing some more growths to induce young wood to come from the base; or (3) by planting at the first going off a dwarfier growing variety. If you ask the nurseryman when sending you your plants to tie two suitable varieties together for this purpose he will do so willingly. The great thing to ever bear in mind is not to expect newly planted varieties to flower well in the following year. A builder cannot build without a scaffold, and you cannot have flowers without good wood, and you cannot have good wood unless you prune your plants very severely the first year. As regards the selection, you must use your own fancy or judgment, suffice it to say that you should get the best.

## Bulb Farming in Ireland.

THERE surely is no more empirical cult than that of gardening. Experience alone teaches, and it is practically impossible, within reasonable limits, to say how, or where, certain plants will grow until they have been tried. The result of experiments often upsets all our preconceived ideas, and we find plants growing where they really should have died, and other plants dying where all the conditions for successful cultivation seemed favourable. For many years it was assumed that successful commercial bulb growing could be undertaken in Holland only. In certain districts of the south of France and of Germany, and in some of the large Belgian nurseries, a beginning was made, and in these bulb growing is now an established industry. We are aware to what an extent bulb growing is now carried on in the Scilly Isles; and in Lincolnshire, Cambridgeshire, and other parts of England there are bulb farms of considerable extent. Many years ago the late James Walker, a shrewd, successful market gardener, visited Ireland and satisfied himself that bulb growing could be made a paying industry, and that the conditions of soil and climate in certain districts were eminently suitable. However, the attractions of being close to the great London market were too great; he settled down near London. The drawback of distance from market centres did not deter others from starting, and commercial bulb growing is now a thriving industry in Ireland, giving employment to many, and widening the interests and money-producing power of rural districts.

Mr. William Baylor Hartland, of Cork, first commenced to draw attention to the possibilities of bulb farming in Ireland. More than a quarter of a century ago he collected together numerous varieties of Narcissus and Tulip which were hidden away in old gardens through the country. He discovered many varieties that were either little known or quite forgotten, and following the example of the late Peter Barr, he got together all he could of these in his nursery at Ard Cairn, classified them, named them, and exhibited them at horticultural shows. Their merit was recognised, and Mr. Hartland extended his trial grounds into a farm to meet the growing demand. In this manner bulb farming may be said to have started in Ireland. Mr. Hartland wrote articles in the Press, and circulated leaflets pointing out how much benefit might accrue to Ireland from an extension of her minor agricultural industries, he himself setting the example by starting one, an example which was soon followed by others, so that there are now several large bulb farms of repute in the country.

The four principal centres are those of Messrs. Baylor Hartland & Sons, at Ard Cairn, Cork; Miss Curry, The Warren Gardens, Lismore, Co. Waterford; Messrs. Hogg & Robertson, Rush, Co. Dublin; and the Lissadell Nurseries, Sligo. It will be noticed how far apart these four are, and in what different climatic centres they are situated, the soil being also different.



This may be taken either as an indication of the suitability of the Irish soil and climate for this particular enterprise, or as a testimony to the adaptability of the Narcissus and Tulip to varied conditions, provided they are cultivated with due thought for their requirements. The truth will probably be found by accepting part of both these explanations. Be this as it may, we find on reference to the map that Ard Cairn is close to the river Lee, and some miles from the sea. The soil is a warm, sandy loam. Lismore is well inland, close to the river Blackwater, the soil is a good sound loam, kept warm and open by a fair admixture of pebbles, and it is also deep and well drained. Rush is beside the sea, a large, flat stretch of country, soil very sandy, with water some eighteen inches from the surface. Lissadell is also beside the sea; in fact, there is only a roadway between it and the beach, but the ground rises abruptly, and the soil is a good, friable loam, perhaps heavier than in any of the other districts named, warm and well drained.

In the last days of March I visited the Ard Cairn nurseries, but unfortunately I failed to see my old friend Mr. Baylor Hartland, who was indisposed. However, under the guidance of Mr. Hartland, junr., and Mr. Treseder, I made a thorough inspection of the nursery. It is situated at Ballintemple, about a mile and a half from the centre of Cork, on the Cork and Blackrock tramway line. The nursery is on high ground close to, but well above, the river, and although enjoying full sun, the ground slopes towards the river to the north. The trial grounds are narrow beds in front of the residence, nicely sheltered, and protected by high hedges. Here were groups of such select Daffodils as Ambrosina, Roll Call, Phantasy, Balzac, Hebe, Homespun, Noble, Czarina, Venus, Diana, Liquid, Sweepstake, &c., fresh and glistening in the morning sun. Groups of seedlings were flowering for the first time, several of them of a quality that must add to the laurels of the firm. In the large field where the stocks are grown I saw large breadths of such kinds as Cervantes and Claddagh, two very early flowering sorts now largely in demand for forcing; in fact, so early are they, that they were quite over before the end of March. There were also stocks of the leading popular varieties, and a noble-flowered variety which bears the name of the originator of the industry, Mr. Baylor Hartland. Further on were quantities of Tulips quite uninjured by hail and frost, such as *The Fawn*, *fulgens maxima lutea*, *elegans lutea*, *ixioides*, &c., with which the name of Baylor Hartland is honourably associated. The glasshouses were full of market plants, forced flowers, and a choice collection of Orchids. Some very fine forms of *Cattleya Schroederæ*, including albinos, a grand pure white *Odontoglossum crispum*, and *Cymbidium Maudianum* (recently received an award of merit) were the most remarkable of those in flower.

Although not very many miles from Cork, in a straight line, it takes some time to get to Lismore by rail, *via* Mallow Junction, and on the Waterford line. Lismore is a charming little town, situated on an elevation above the Blackwater, which is there a river of

considerable size, spanned by a high, arched bridge. Beside the bridge rise the rocks on which Lismore Castle is built, a fine structure, beautifully situated, with a splendid view down the Blackwater, and well-wooded banks on both sides of the glen through which the river runs. On a plateau well above the river is the town, and at the end of the main thoroughfare stands the church surrounded by venerable trees. In the shade of these trees Miss F. Currey built a studio, and there painted many delightful pictures. Here, also, was her garden, in which were cultivated many rare and choice plants that made fame for the owner long before she commenced the more practical occupation of bulb farming. The 26th March had been blustery, wet, and cold; the 27th broke bright and cheerful. Lismore looked happy bathed in sunshine, so also did the many lovely flowers in the Warren Gardens. My first visit was to the erstwhile studio, cool and shaded, and here, instead of pictures, were ranged round the walls vases of the choicest varieties of Narcissus, gaining strength for their long journey to the exhibition hall, Vincent-square. Every section was represented, Jasper, Whitewell, Croesus, Sunrise, Duke of Leinster, Warrior, Sirdar, Lord Muncester, and Scarletta being among them. From the studio and garden proper we went to the farm, first into a large, walled-in enclosure, well sheltered by trees, and enjoying full sunshine, with a fine deep, open, loamy soil, it seemed an ideal place in which to grow plants. Never before have I seen anything to equal a large bed of King Alfred as grown there. Arranged in long, narrow beds, were groups of the most select varieties, some specially sheltered by low hedges, some fully exposed in the open, but all apparently happy. Immediately in front of the door, and in full sun, some masses of Firebrand, Sirius, Flambeau, Torch, and Lucifer were bright beyond description, quite untarnished by the night's heavy rain. Near by were patches of White Slave, White Queen, Lord Kitchener, Sirdar, Mermaid, Mrs. Morland Crossfield, Goldfinch, Michael, Great Warley, and many others. These choicer sorts are cultivated in long, narrow beds, protected by low hedges, and so arranged that they can easily be examined and compared, each variety having a little compartment for itself. It was difficult to leave this enticing section. Beyond this inclosure were two fields sloping towards the river, but well above it, and fully exposed to the ripening influence of sun and wind. The soil here was somewhat stiffer, and in it were growing large breadths of the older varieties, all in vigorous health. The process of "roguing" was being carried out thoroughly by girls, and others were busy cutting flowers, Miss Currey doing a considerable business in Daffodil blooms. These are made up in baskets of varying sizes, and the contents also vary, as do the prices, there being quite a brisk demand for baskets of the choicer sorts, where there is quality without coarseness; the flowers are cut clean and fresh, with long stalks.

SIR F. W. MOORE in *The Field*.

(To be continued.)

## Shrubs.

By J. W. BESANT.

### THE PLANTING SEASON.

**F**OR the great majority of shrubs and herbaceous plants autumn planting is best. The reason is readily seen when plants are lifted at this time. On examination of the roots a multitude of fine, white, hair-like rootlets will be noticed growing from the older roots, particularly near the points. These can be seen on herbaceous plants after the shoots have died down, and on trees and shrubs after the leaves have fallen. These tiny rootlets become firmly attached to the soil particles during autumn while the soil is yet warm, and are most freely produced during showery weather, when the soil is moist. Obviously then the lifting of such plants in spring, although from various causes often unavoidable, must result in the destruction of vast numbers of the tiny rootlets formed in autumn, and which in spring, if not destroyed, become the real workers in collecting food material for transmission through the older roots to the shoots and leaves. Again, autumn planting is an advantage inasmuch as there is usually much less work in other departments of the garden at that time, and the plants, whether they be shrubby or herbaceous, having become to a great extent established in the soil, are much better fortified to withstand the often dry and windy weather of March. The difference between an autumn planted shrub and one planted in spring is frequently most marked during the following summer.

Evergreens are usually dealt with in early autumn, experience showing that the production of rootlets is most active then, say, in August and September. However, it very often happens that spring planting must be resorted to especially where a great deal of preparation has to be done. When planting on a large scale is to be carried out, obviously the work of preparation would have to be done in summer, and in very few gardens can the time be spared for this, hence autumn and winter are devoted to getting ready, while the planting is deferred till spring. At this season the order of things is reversed, deciduous shrubs being planted first since they present no leaf surface to the destructive influence of hot sun and drying wind. Evergreens should be left till April, when the weather conditions may be expected to become kinder. In the foregoing remarks it is assumed that no very great bulk of soil will be moved with the shrubs. Where matters can be arranged so that a considerable "ball" of soil can be moved, thereby keeping most of the roots intact, the time of planting is not so important. This, however, entails a good deal of time and skilled labour, neither of which are usually at the disposal of the amateur or owner of a small garden.

The condition of the soil is important when planting is about to be undertaken. If possible operations should be commenced when the soil is comfortably moist from warm autumn rains. Often, however, the work must be got through, dry or hot. In this case a good watering is an advantage, giving one good soak-

ing when the hole in which the shrub has been placed is half filled with soil, and another on finishing off. In all cases the soil should be well worked in among the roots and made quite firm by treading or otherwise.

If a shrubby large or small is being dealt with the site should be trenched two feet deep, working in new soil, decayed manure, or garden refuse as the work proceeds, that is if the staple soil is poor, which can only be determined on the spot, and by noting the condition of any vegetation in the vicinity.

Where isolated specimens are to be planted holes must be opened sufficiently large to take the plants comfortably, allowing space for the roots to extend, and have the soil well worked through them. They should be broken up eighteen inches to two feet deep, according to the quality of the sub-soil, but nine inches to a foot will be deep enough to receive the mass of roots.

An important point is the depth to which the roots should be covered. Roots, like the leaves and stems, require air, though in less proportion; consequently, if buried too deeply, growth is retarded and quickly causes a sickly, unhealthy appearance. Some subjects, such as *Rhododendrons* and kindred genera, do not thrive at all if the roots are more than an inch or so below the surface of the soil. This, however, does not prevent them being mulched several inches thick with loose, half-decayed leaves, through which air can percolate freely. In fact there is no better stimulant for *Rhododendrons* and other shrubs which show signs of starvation than a good mulch of leaves put on in spring. By autumn these will have decayed to an inch or so in depth, but that inch will be a mass of root fibres, and the plants will show their appreciation by increased growth and the dark green, healthy appearance of the foliage. Mulching is important in the case of spring-planted shrubs, since, for reasons given above, the plants have a greater struggle to become established. A good mulch of leaves or decayed manure keeps the soil naturally moist and prevents cracking of the surface and consequent destruction of valuable roots. If the topmost roots are covered by a couple of inches of soil, except in the case of *Rhododendrons* and their allies, and this is followed by a comfortable mulch, success is practically assured, even although spring planting may have been necessary. In the case of rare or doubtfully-hardy shrubs spring planting may be considered safest, since whatever merit there may be, and certainly is, in most cases in autumn planting, yet it is useless if the plants are killed outright by a hard winter. In this case spring planting and careful after-treatment gives the choice and tender plant a chance to become established and hardened, so as to better withstand the rigours of winter than if planted in autumn, and almost immediately called upon to face severe weather without previous preparation by exposure to the sun and air of summer.

It is not necessary now to go into the question of what to plant, since in the previous issues for this and several years back copious lists have been given nearly every month, and a visit to a good garden or nursery where shrubs are well grown will save time and trouble.

## Gentiana acaulis.

By HUM BLAND, Blandsfort, Abbeyleix.

I HAVE been asked to write of Gentians, and will briefly describe the treatment that we give them here, which is totally at variance from book-law. October and November are the months to plant *Gentiana acaulis*. The ground should be dug out three feet deep, and a foot of drainage put in at the bottom, then two feet of the best virgin soil and leaf-mould. We use rotten scutch or couch grass two parts, and leaf-mould one part. All this should be well stamped down. Then plant the Gentians in clumps of twelve crowns, six inches distant each way, zig-zag. Don't expect great things the first year in the way of bloom, but don't forget to cut off the bloom before seeding. Save worry by planting in full sun only. We have them in edgings by the mile, and you can see the scarcity of bloom where even a primrose shadows the Gentian. Weed them and keep them clean always, and in the second year they will repay, and in the third year will rejoice you. At four years they will be touching each other, and the fifth year you must tear them up and start again. I have told scores of people how we grow them, but I know that they give them gravel to feed on, jump on them and roll them, to make the poor things believe that they are under glaciers. Unbelievers, come and see them here on the 10th of May, 1913, and afterwards roll them and starve them at your peril. To my gardener is the credit. In the past twenty years these miles of Gentians have sprung from a few plants. Each year I groan at the carting away of three feet of soil, and the bringing back of virgin good food.

Towards the end of one year I struck, and replanted the last lot in the old soil. They were quite a failure, whereas their brothers and sisters flowered in great beauty. My gardener did not let me down lightly—"I told you so," quoth he. How I hate being "told so."

[Whether book law or not, the results Mr. Hum Bland gets from his Gentians are a surprise to all visitors.—ED.]

## Some Pretty Veronics.

*VERONICA HULKEANA* is one of the most beautiful of all our dwarf evergreen shrubs, but unfortunately not thoroughly hardy; nevertheless it is far hardier than many suppose, and one meets with many flourishing plants even in the north of Ireland. In cold places it is well worth a sunny wall or a sheltered corner in the rockery, and is also pleasing when grown as a pot plant for the cool conservatory. In pots it is inclined to become rather straggly, and the points of the shoots should be nipped out to promote a bushy growth. If kept free from insect attacks there is no difficulty in its culture.

This *Veronica* was a great favourite with the late F. W. Burbidge, and he planted it largely in the Trinity College Gardens, Dublin. All the *Veronics* seem to thrive exceptionally well by the seaside, and grow very quickly. Our photo gives an example of this, and illustrates a plant of *Veronica Hulkeana* in Sir Edward Verner's garden, Corke Abbey, Bray, which has only been planted a year and a few months, and was covered



*VERONICA HULKEANA.*

In Sir Edward Verner's Garden at Bray.

with beautiful pale lilac flowers on stems a foot to eighteen inches long.

*Veronica Lavaudiana* is a native of the Canterbury Plains of New Zealand, and although discovered in 1840 is by no means a common plant. At Glasnevin it has passed through a fairly severe winter quite well, while several other New Zealand *Veronics* and other plants were severely injured. In all gardens it is not a success, but in Mr. L. Meredith's garden at Bray the plant grows on the rockery in full sun, and forms a procumbent bush about a yard across, covered with numerous flower heads, making a beautiful rockery plant.

This species is one of the most distinct of the shrubby *Veronics*, the leaves are roundish, with a crenate margin, edged with red. The inflorescence is flat and corymb-like, two or three inches across, composed of numerous small, white flowers. The flower buds are a deep pink. These with the open flower have a most pleasing appearance.



*Veronica Fairfieldii*, or as it is sometimes called *Veronica Hulkeana Fairfieldii*, is given by Cheeseman as a probable hybrid of *Hulkeana* and *Lavaudiana*, and originated in the Fairfield Gardens near Dunedin, and has never been found in a wild state. The leaves are smaller than *V. Hulkeana*, and have a reddish margin, and the inflorescence is the same colour, but it is smaller and broader. It is being tested in the open this year at Glasnevin, and in all likelihood will prove hardier than *V. Hulkeana*.

Another *Veronica* seldom seen, but quite a pretty little shrub, is *Veronica vernicosa*, or *V. canterburiensis*. It has rather oval-pointed leaves closely set upon the branches, the tips of these being thickly set with clusters of white flowers in spring or early summer.

These *Veronicas* are New Zealand plants, and they are easily increased by means of cuttings inserted in sandy soil, this month being a good time for propagation.

## Hints to Amateurs.

By R. M. POLLOCK.

TOWARDS the end of the month all fruit trees may be pruned; some knowledge is necessary to make this operation a success. The amateur must find out, either by observation or from text-books on the subject, where the fruit is borne on the different fruit trees. All trees that fruit on "spurs" (*i.e.*, the short stubby growths) such as apples, pears, plums, apricots, sweet cherries, damsons and red currants must be so pruned as to encourage the formation of these spurs, but as well as this, the forming the shape of the trees, and the subsequent retaining of the shape must also be considered. Fruits which are borne on the young previous season's growth, such as Morello cherries, peaches, black currants and gooseberries need very little actual pruning. The old and useless wood may be removed, in the case of gooseberries the centre of the trees cleared, and wall plants may have the young growths tied into their places and the points of the shoots stopped. Further particulars will be given later on, as any time between November and January pruning may be safely done. Never prune in frosty weather.

Cuttings of gooseberries and currants may be inserted. Where possible take these off with a heel—that is, a bit of the old wood. Strong, firm, well ripened shoots of the past summer's growth are the best. In the case of gooseberries and red currants remove the buds from the base of the cutting for about five inches and cut off the weak top, leaving the whole cutting from twelve to fourteen inches long. Put these in firmly in the open ground in rows fifteen inches distant and about four inches apart from cutting to cutting. In the case of black currants the lower buds need not be removed, as in these plants the young growths from the base have to be encouraged.

If new fruit trees are wanted they should be ordered and places for them marked and the holes prepared. If young plants of any sort arrive from the nurseries while the ground is frozen they should on no account be planted. Lay them in in some spare corner and wait until all frost has gone before planting permanently.

Tender plants and plants that are new to cultivation, about which little is known as to their hardiness, will require some slight protection. This can be applied in different ways, either by branches of evergreens placed over the plants; the common heather or yew branches are good, or old matting can be used, and if the plants are small a cap-glass may be used, but if matting or cap-glasses are used they should be lifted off during bright days and replaced at night.

Carnation layers should now be rooted and may be cut from the parent plant. Where possible it is as well to pot them up, and keep them in a frame or house until the spring, but this is not always convenient, as during the coming months space in either of these places is fully occupied. Where this is the case, plant them out at once in the sunniest border and the losses will not be heavy. Roses and all trees and shrubs may be transplanted and the places for new plants prepared. See articles on these two subject in this number.

GREENHOUSE.—Carnation rust where troublesome should be seen to at once. Pull off all leaves that have black or brown spots and burn them at once; see that they really are burnt and not left with the rubbish to be burnt later on. This often happens, but in the meantime the spores of the fungus have spread. Spray the plants at intervals of three weeks with a solution of sulphide of potassium, one ounce to two gallons of water. One spraying will not be enough, so it must be repeated.

The batch of Zonal Pelargoniums put in during April will probably be ready for a shift to larger pots. Cut down the oldest plants and put in another set of cuttings.

Primulas and Cinerarias will be coming into bloom quickly, so be careful in watering. Cineraria Matador should be noted, for its scarlet flowers are quite a distinct break of colour in the family. When large blooms of *Primula sinensis* are wanted, nip out the first blooms that show, but it is not advisable to do this to all the plants, as it naturally makes the flowering later.

Lily of the Valley may be potted for forcing, and this should be done as early in the month as possible. Retarded crowns of this beautiful flower can be bought for about 1s. 6d. per dozen, and can be had in bloom within three weeks from the planting time. When these crowns arrive they should be potted up at once, and grown on as quickly as possible. No great heat is necessary, but care should be taken not to give them any check. These retarded crowns often make very vigorous foliage, and it is a good plan to nip out one of the three leaves, and so give more space for the development of the flower spike.



WHAT a beautiful garden rose is Madame Abel Chatenay! Be the season good or bad, wet or dry, this favourite never seems to fail; even now, in the middle of October, many nice, fresh blooms may be gathered, showing that it is a good autumn rose. Raised by Pernet Ducher in 1895, it freely bears flowers of a carmine rose, shaded salmon. The flowers are lovely in a vase; although not huge in size, yet they are very full, and last well in water, and may usually be cut with good stems. The foliage is of a deep, lustrous green, and leathery in texture.

## The Month's Work.

## Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.



**T**HE flower garden will have undergone a great change during the past few weeks. Nearly all deciduous trees and shrubs will have shed their foliage, which was so bright last month. They can now be gone over carefully, pruning and regulating the growth of all specimen plants. Should any of the above, or evergreen shrubs, require removing or transplanting now is the best time to do so, choosing a dry time, when the soil is in good working order. Water, mulch, and stake all plants which have been replanted.

The herbaceous borders should now receive attention, removing all the stems and foliage of the plants which are quite past. Should any regulating or replanting be necessary it should now be done, after which a good dressing of decayed manure should be worked in between the plants with a digging fork, taking care not to injure the roots of the plants which are near the surface; this will also give the borders a tidy appearance for the winter.

Spring bedding should be completed as early as possible, so that the plants will get established before severe frost sets in.

All bulbs not already planted should be attended to at once. Carnation layers which were planted in their permanent beds last month will be benefited by having the surface soil stirred with a hoe and made neat.

Alpine plants should now be looked over, and should it be desirable to increase any of them they should be lifted and divided, taking care to have roots adhering to each piece. They can then be planted into the spaces which have been prepared for them. Some varieties which will not divide should have cuttings taken off and inserted in a frame or hand-light in any sandy, free compost. Kept close and shaded they will soon root and be ready for planting out in spring.

All established rock plants should have a top-dressing of fine compost, which will feed and protect their surface roots.

Keep grass and paths clean by having fallen leaves collected, they will repay for the labour expended on them. All beech and oak leaves should be collected and stored dry in a shed for leaf-mould. In about nine months they can be rubbed through a coarse riddle. This will be found much better for all purposes than if allowed to decay. All other leaves can be used in making hot bed and for mixing with manure, &c. When the walks have been cleaned, roll them, and in every part of the garden maintain a tidy appearance.

## The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath,  
Killruddery, Bray.

**E**ARLY VINERIES.—The work of pruning and cleaning early vines should be done without delay, as it will allow an earlier and longer rest. If the grapes have not already been used up they may be cut at once; for if a fruit-room is available for storing the grapes, these will last in good condition when cut and placed in bottles of water, with a few pieces of charcoal for keeping the water sweet, provided they are examined frequently and bad berries removed from time to time. After the vines are pruned the rods and every part of the house must be thoroughly cleansed. Always remember that unless the cleaning work is carefully and properly carried out when the vines are in a dormant state you will be certain to suffer for any neglect in this respect after the growing season commences, and especially will this be the case if you are unfortunately troubled with that garden pest called mealy bug. If you have the slightest sign of the above insect the rods should be well washed two or three times, and then painted with the following mixture:—One pint of gas tar, two wineglass-fuls of paraffin, a sixty-sized pot of flowers of sulphur, and three pints of clay. Then boil these materials, adding sufficient water for thinning. After removing the old and loose soil from the surface of the border, and if the border is found dry, give a good watering and also a top-dressing of new compost composed of, first, a sprinkling of bone-dust and wood-ashes or artificial manure; then cover with a nice layer of fibrous loam or turves placed closely together with the grass side downwards.

**PEACHES.**—The peaches should also be got ready for starting at your earliest convenience. Prune them first, then cut off all the old ties and wash every shoot to make sure that they are free from scale. The bright sunny weather during September and October helped considerably in ripening their wood, and with proper attention, combined with good cultivation, they should give splendid results next year. In pruning peaches and nectarines it is necessary to have a regular distribution of well-ripened wood amply provided with flower buds over every part of the trees. All the naked shoots of the previous year should be cut away to a properly placed young shoot, and on no account shorten those. If you have sufficient space on trellis they should be all tied in without any cutting back. Pay strict attention to root pruning when needed; also drainage, watering, and top-dressing. Remember that it is always a pleasure to see nicely tied and carefully trained peaches and other trees growing on good walls, for when seen in a healthy state they are a credit both to the owner and the grower.

## THE HARDY FRUIT GARDEN.

**FRUIT TREES ON WALLS.**—Planting operations should be carried on with all dispatch during favourable weather. Do not waste any opportunity in getting forward with this important work, for the sooner it is accomplished the better will be their chances for grow-

ing satisfactorily next season. With established trees it is much better in every respect that pruning should be done now than to be left until the spring. When pruning various sorts of trees attention must be paid to their different modes of bearing. Some kinds bear almost exclusively on the wood of the previous year, while others bear on spurs attached to the old wood.

**BUSH FRUIT.**—The present is the best time for making new plantations. Select a fresh bed when possible, provided with suitable soil and drainage, and be careful to make the holes wide enough to allow the roots to be spread out in a horizontal position. Trees large enough to be swayed about with the wind should be staked securely immediately after being planted. Three stakes forming a triangle are better than one stake placed close to the tree. By the former method the injurious hole—which by the swaying of the tree makes the stake worse than useless—is prevented from being formed.

## The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor,  
Co. Kildare.

**M**UCH time will now be given to cleaning up fallen leaves, as these, like all garden refuse, as cabbage and cauliflower leaves and stumps, yellow leaves on Brussels sprouts, late pea haulm, &c., should be cleared away or dug deeply into the soil. This raises an important question to good vegetable growers, viz.:—Are all soils benefited by autumn digging? It is one on which gardeners ofttime differ, and yet all may be right. Some years ago I tried to get the views of good vegetable growers in the pages of *IRISH GARDENING* on the above subject, and also on the question of manuring sandy soils at this time of year for next season's crops, but failed.

To do away with injurious grubs and wireworm in soils, the ground should be deeply dug or, better, trenched, leaving the surface rough, and covering the ground lightly with old gas lime. In the spring, before cropping the ground, a dressing of soot and lime, wood ashes and burnt garden refuse, will be found of much benefit, not alone in making the soil unpleasant for these pests, but also in encouraging quicker and better growth in such crops as spinach, onions, carrots, in fact all garden crops.

**CELERIAC.**—Where severe frosts may harm this crop, it should be lifted and stored in sand in a cool shed. This is much safer than covering with straw or leaves. This vegetable, like Kohl Rabi, is now being much grown, and both are most useful from this time till spring.

**GLOBE ARTICHOKE.**—Where these were growing strongly the severe frost of the 2nd and 3rd October did some injury to the strongest shoots, so that the plants should be protected by putting some long dry litter over them.

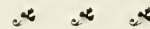
**RHUBARB.**—This forces quite easily after the plants have got a few nights' frost. Under the stage of a warm greenhouse, if there is sufficient room for the stalks to grow, is a good place, but light should be excluded and plenty of soil or leaf mould put around the roots of the plants. Many force rhubarb where the plants grow by covering the crowns with barrels or

boxes, and then covering all with a mixture of stable manure and leaves, mixed and turned a couple of times before placing over the boxes or barrels, putting it at least three feet deep and a couple of feet wider than the box or barrel, and these, if the bottoms are loose and can be easily lifted off, will be found very convenient for pulling the stalks of rhubarb when grown. Care should be taken not to let the covering get too hot, which often happens when manure alone is used, as then the heat rises quickly, but soon cools. Leaves prevent a very burning heat and make the covering keep the heat much longer.

**CABBAGE.**—Plants put out during September and early October have only just begun to grow. If fine weather comes in this month run the hoe occasionally between the lines to help growth and keep down weeds.

**ASPARAGUS.**—The growths on asparagus have now ripened and can be cut down, the ground being cleaned and given a good mulch of half decayed manure. During the autumn I have seen many young beds of asparagus injured by allowing the wind and rain to break the strongest growths through not staking the plants.

In last month's number I wrote of this season not being a good one for exhibitors of vegetables, and this opinion was confirmed after seeing the vegetables staged from the sunny south at Clonmel Show on 3rd October, not one dish being above the average and very many much below it. The fruit, especially apples, at this show were magnificent, and I hope to give my impressions of the many fine dishes in the next number. Turning back to vegetables, let me see what were the best dishes in the cup class in Dublin. In the first prize exhibit were the finest onions in the show, and seldom have I seen better finished bulbs. Cauliflower, leeks, and carrots were also very fine and beautifully staged. Celery was also good. In the second prize lot were grand celery, extra strong, clean, and well blanched, a pair of model cucumbers, twelve perfect tomatoes, very nice table potatoes, and some grand cabbage poorly staged, being almost hidden. In the class of six kinds Dr. Browne was easily first, his onions, carrots, and celery being first-rate and well staged. I should like to see at least one head of celery in each collection cut by the judges, as my experience this year has been that very much of the celery staged had started, and often badly, consequently received few points when being judged.



## CHINESE BRAMBLES.

BECAUSE plants are new there is a distinct inclination to pile on undue praise. Such seems to be the case with these new Brambles, and garden owners should be wary in admitting them into the garden. True, among the newer kinds there are some harmless and almost spineless evergreen species, like *R. bambusarum*, *Henryi*, *flagelliformis*, valuable as climbers for their foliage, and some of the white-stemmed section, like *R. biflorus quinqueflorus*, and *Giraldianus*, and maybe a few handsome-leaved ones, like *R. thibetanus*, may be useful for the wild garden, but for horticultural purposes, as a well-known hardy plantsman remarked, "it would have been no loss if the majority had been left in China." B.



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# Irish Gardening

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## Hoheria populnea.

**H**OHERIA is a genus belonging to the Malvaceae, and contains only a single species which is entirely restricted to New Zealand. To the Maories it is known as "houhere" or "boihere," and European settlers call it "ribbonwood" or "lacebark," terms which are also applied to its near relative the *Plagianthus*.

Kirk, in the "Forest Flora of New Zealand," says the plant is sometimes found as a shrub, and at other times grows to a small tree twenty to forty-five feet high. The leaves of some varieties show great variation, some even taking the form of *Crataegus*.

Our photograph is of a spray taken from a plant growing under glass in the Trinity College Gardens. Here it has flowered and ripened seed for many years. The shrub is about eighteen feet high, but owing to limited space it has to be cut down frequently. About the end of September and October this evergreen shrub flowers freely, and is most attractive. In the open ground in the College Gardens a young seedling is already five feet high, and in several other gardens throughout the country is making good growth, and has flowered outside in the south and also in Co. Down. No doubt, like other New

Zealanders, a sheltered position will be appreciated, although it has flowered in the open this autumn at Abbotsbury.

The leaves are evergreen, from three to four inches long, smooth and finely veined, with toothed margins. The flowers are white, about three-quarters of an inch across, produced in bundles of three to ten in the axils of the leaves. The petals are five in number, and the stamens are prominent and interesting in structure. The filaments are united at their base to form a tube which encircles the pistil for half its length, then the stamens divide it into five bundles, each bundle containing five to eight stamens.

At the November meeting of the Irish Naturalists' Field Club Mr. Wild showed a branch bearing both flowers and unripe fruit. The fruit consists of five carpels; each carpel has a large

wing, and contains a single seed.

The *Hoheria* will root from cuttings, but is more easily raised from seed, and is usually to be found in the Trinity College seed list. The shrub grows freely in ordinary soil, and as free-flowering evergreens for October are very scarce the *Hoheria* should be valuable if placed in a sheltered position.



HOHERIA POPULNEA.

## Building a Small Rock Garden.

By REGINALD A. MALBY.

**F**ORTUNATELY the idea, once so prevalent, that a rockery could be made in any odd corner—usually where nothing else would grow—is rapidly passing away, and it is now becoming quite “the thing” for even the small villa garden to have its rockery, while not a few gardeners are enthusiastically in favour of this delightful branch of horticulture, and in such cases we are becoming familiar with gardens which, even if small, can be appropriately called Rock or Alpine gardens. A brief description of the formation of such a garden in a space some seventy feet by thirty feet may be of interest, especially as it had to be economically carried out.

In the first place, time and opportunity would not allow of the whole site being dealt with at once, but a general design was drawn up and operations commenced on half of it. As the ground was unfortunately of a heavy, soapy nature, the whole site was so arranged as to fall roughly to one point, where a pool was formed by digging out the soil, thereby tapping a small vein of gravel which gave a permanent supply of water. The same plan would hold good, however, if a cemented basin of irregular shape had to be built, with an overflow to some drain. Having arranged the levels so that the surplus moisture falling on the garden would find its way towards the pool, the prepared ground was covered with a layer some four to six inches in thickness, consisting of hard core—viz., broken brick, clinkers, &c.—the object of this drainage vein being to prevent the soil (which was to be placed on the top of it and into which the Alpine plants were subsequently to root) from becoming waterlogged during the rainy season.

The building proper now commenced. Assuming, as in the case under discussion, that a path would run round the outer edge of the garden, it was found best to start the building from the edge of the path. Bearing in mind that the outline should on no account be formal or irregular, the pieces of stone were carefully placed along the edge of the path in such a way as to fall into indents or bays, with promontories between them, thus affording secluded spots for plants of dwarf habit, while the more protruding portions could be clothed with bolder masses of plants such as *Arabis*, *Aubrietia*, *Helianthemum*, *Iberis*, &c. Each stone was placed firmly on its most substantial base, the ground having been prepared for its reception by inclining slightly inward, the result being that the stone would slope somewhat away from the path and towards the soil behind it.

Towards the centre of the garden, and inside this edging of stone lumps, a large quantity of soil has been accumulated roughly in the shape of the desired rockery, and consisting largely of the earth from the pool excavations, well mixed with a large amount of sharp road grit, broken bricks or flower pots, old mortar and leaf-mould. I cannot too strongly advocate the use of such material as broken bricks, if the ideal sandstone chippings are unobtainable, and I feel sure that either could be used to a much greater extent than is usually done. Personally I believe fifty per cent. of the soil in Alpine gardens could with great advantage consist of such chips, which retain so large a percentage of moisture, while at the same time keeping the ground opened and well drained.

As the stones were put into position this gritty soil was brought down behind them and well rammed, so that all was made quite firm and solid up to the level of the top of the lump. When the whole (or at least a large portion) of the outer edge has risen to this height, a further tier of rocks was placed on this consolidated soil, but further from the path, and of such a varied height and outline as to cause the building to assume a natural, terrace-like formation, rising as it recedes from the path and yet broken up into large and small pockets *each connected* with the main body of soil. In every case the stones were placed so as to be as firm as possible, the very opposite to those tooth-like projections we used so frequently to see sticking out of the old-fashioned rockery, reminding us strongly of almonds in a cake. Great care was also taken to select the most suitable and decorative looking pieces of rock for the more prominent positions, it being borne in mind the whole time that the stone was employed solely to *retain the soil* and prevent it being washed down during moist weather.

With this end in view all crannies were firmly wedged with splinters of rock to prevent the soil from leaking out, except in certain places where *Primulas*, *Sax. longifolia*, and other suitable plants for a crevice or fissure were placed at the time of building. In such cases the plants were packed into the cracks, and, aided by stone chips, prevented any soil from getting out. If after all was finished there remained any small opening which seemed likely to be troublesome, some clay and moss well rammed into them sealed them very nicely. Here and there at convenient spots somewhat slab-like pieces of stone or flat-topped lumps were employed to act as stepping-stones so as to enable the gardener to readily examine and attend to the plants without in any way damaging them by inadvertently stepping on them.



It will be seen from the foregoing that the result of this type of building was an irregular shaped mound with small valleys running up its sides, broken at intervals by ridges or buttress-like shoulders, springing originally from the promontories on the path edge, the whole being composed of numerous small and somewhat level beds of irregular shapes and heights. Each of these beds or "pockets" was planted with suitable plants according to its aspect and general suitability.

At one side of this rock garden, where the design would give a number of beds well under the eye and facing S.E., the soil was made even more gritty than the general compost, consisting roughly of fifty per cent. finely-crushed brick, which had passed through a half inch sieve, the remaining constituents being equal—portions of well-decayed leaty soil, old mortar, good loam and sand. This provided a very happy place for the choicer and slower-growing Saxifrages, such as *Sax. lingulata*, *lantoscana*, *Burseriana*, *marginata*, *cochlearis*, *Rocheliana*, *Salomoni*, *Elizabethæ*; *Asperula suberosa*, *Edraianthus serpyllifolius*, *Linum salsoides nanum*, and other dwarf growing gems.

On the other side and facing south the moraine was built. The method adopted in this case will be found fully dealt with in IRISH GARDENING of last March. Here in the moist grit with the merest trace of soil, such charming and none too easy plants as the following thrive: *Silene acaulis*, *Edraianthus serpyllifolius*, *E. dinaricus*, *E. dalmaticus*, *E. pumilio*, *Anemone vernalis*, *Dianthus alpinus*, *D. neglectus*, *Petrocallis pyrenaica*, *Camp. Zoyssii*, *C. excisa*, and, till a browsing slug ate the whole plant in a single night, *C. cenisia*, while last, but not least, that beautiful *Campanula Allionii*, which in its season is a mass of flower.

Immediately below this moraine a series of bog beds at various levels were built, leading down to the pool, merely making basin-like depressions fifteen inches deep, lining with clay and filling in with a compost of peat, leaf-mould and silver sand. In some, where the large *Primulas*, like *P. denticulata* and *P. cashmeriana*, are grown, loam was also added.

In these moist (though never wet) bog beds *P. farinosa*, *frondosa*, *involucrata*, *Mentha Requienii*, *Gaultheria trichophylla*, *Pratia angulata*, *Rubus arcticus*, *Gentiana verna*, *Viola cornuta*, *Nierembergia rivularis*, several *Ericas*, and the oak and the beech fern thrive, while in the half-shady nooks *Shortia galacifolia* is very much at home. Between the patches and tufts of the foregoing many small bulbs, such as *Galanthus*, *Nar. cyclamineus*, *N. Bulbocodium var. citrinus*, *Fritillarias*, and *Muscari* make a bright display early in the year.

On suitable vantage points, such as sub-

siary shoulders in the rock garden, where their quaint shape will be seen to the best advantage, dwarf Conifers look very well, particularly if protruding from some steep place in the rock crevices. Among those which are especially attractive are young plants of *Pinus cembra*, *Pinus sylvestris nana*, *Picea excelsa pygmaea*, while on more level spots, and near the eye, specimens of the very dwarf and pyramidal-growing *Juniperus hibernica var. compressa* look extremely well. On hot, dry ledges in gritty soil the *Sempervivums* are seen to the best advantage, such as *S. arachnoidum*, *S. triste*, *S. atropurpureum*, *S. patens*, *S. filiferum*, *S. rubicundum (vera)* and *S. cornutum* being especially decorative, the full exposure bringing out their rich colouring.

In the steep portions of the rockery facing south where crevices exist, with a deep root-run behind them, the beautiful silvery stars of *Sax. longifolia* and the clusters formed of the minute rosettes of *S. cochlearis minor* are particularly decorative, while similar positions, but on the shady side, make delightful homes for colonies of *Ramondias*. These steep places where the rosettes can be inserted in an almost vertical position prevents the wet ever lying on the growths, besides displaying the plants to the best advantage.

An attractive feature can also be introduced by making a series of rough stepping stones, or irregular steps, rendered water-tight by tinted cement, down which water can be allowed to trickle, eventually dripping in a miniature cascade into the pool. In the hot weather the liquid sound of the falling water is very welcome, besides aerating the pool and making many places on the somewhat worn steps where the feathered visitors to the garden can drink and bathe.

A piece of iron gas barrel laid into the mass of soil before building, and carried along to some convenient spot where an attachment can be made by means of a hose to the water supply, is a ready method of supplying the water without it being too evident that its source is *not* a natural one.

In the pool itself Water Lilies, such as *Nymphaea marliacea var. carnea* and *var. rosea*, *Aponogeton distachyon*, *Menyanthes trifoliata*, *Myosotis palustris*, make a beautiful display, the surfaces being broken up by patches of the minute floating *Azolla pinnata*.

On the margins of the tiny pond, which is greatly helped if it "tails" off into a narrow winding arm of water, plants like *Saxifraga peltata*, *Senecio clivorum*, *Iris levigata*, *Lobelia fulgens*, *Trollius asiaticus* and *europæus*, and *Spiræa Peach Blossom* make bold features, while subjects of dwarfer growth are found in *Primula rosea*, *P. sikkimensis*, *P. pulverulenta*,

*P. japonica*, *Mimulus cupreus* and its variety Brilliant; *Sarracenia purpurea*, *Calthas* in variety, *Sax. Hirculus*, *S. aizoides*, and *Sagina pilifera aurea*.

A pleasant variation from the more orthodox gravel path which surrounds the garden may be made by paving it with irregularly-shaped pieces of sandstone laid on some two inches of sandy soil. Between the crevices of this pavement many dwarf carpeting plants such as *Arenaria balearica*, *Epilobium nummularifolium*, *Cotula squalida*, *Thymus Serpyllum*, *Mentha Requienii* look very attractive.

If in building such a rock garden the following important factors are borne in mind—viz., thorough consolidation of the soil, the firm placing of the rocks in such a way as to slope towards the earth, thus causing all water falling upon them to run inwards; very firm planting in a *gritty porous* compost, constant supervision to eliminate all weeds, and frequent hunting expeditions at night to catch would-be browsing slugs and snails—such a garden cannot fail to be a success, while the immense amount of interest (not merely in the summer months, but all through the year) renders this form of gardening, especially in a limited area, the most fascinating branch of a delightful and pleasurable pastime.

## Rosa moschata floribunda.

THIS is essentially a Rose for garden decoration, and will rank in beauty and freedom with most of the single-flowered Ramblers of recent introduction. Of vigorous habit, producing long stout shoots, clothed with handsome glossy green leaves, it may be used in a variety of ways with great success.

The Musk Rose, of which this is a variety, is a native of the warm countries of Southern Europe, and extends to India; hence a sunny, warm position is advisable to induce free flowering. The variety under notice is particularly free, as the illustration on the next page well shows. The photograph depicts a single plant ten feet across, and bearing innumerable large corymbs of fragrant blossoms. Each corymb is composed of a large number of flowers, which are white with a creamy yellow centre, and deliciously fragrant.

For the strongly built pergola, a sunny bank, or for clothing an old apple tree, this free-flowering variety is equally useful. It is also, as the illustration shows, capable of a fine effect as a single specimen on the lawn, where not the least of its charms is its delightful fragrance diffused all round.

DUNDONACHIE.

## Calceolaria Cibrani.

THIS new type bears the same relation to the Herbaceous *Calceolaria* as the Star *Cineraria* does to the large-flowered florists' *Cineraria*.

The flowers of Cibrani's *Calceolaria* are only about an inch in length, of a rich golden yellow, the long pouches prettily crimped at the base. *Calceolaria prolusa* is another name by which it is known, and it bears out this character, for the flowers are produced with the utmost freedom, making the plants a veritable shower of gold. Combined with this it possesses splendid lasting qualities, is easily grown, and comes freely from seed. Merits such as these entitle it to be one of the leading plants for the flowering house or the conservatory. Old plants, when they have passed out of flower, should be cut down and placed in a cold frame, partly shaded from the strong sunshine, and syringed freely to promote growths which will be useful for cuttings. When about three inches long the cuttings may be taken, inserted in pots of sandy soil, and kept close in a propagating frame until rooted. When well rooted they may be potted separately into three-inch pots, using a compost of three parts loam and one part leaf-mould, with enough sand to keep the soil open and free. When they have taken hold of the new soil plenty of air should be given, and before the roots become really pot-bound the plants should be repotted into six-inch pots, using the same kind of compost in a coarser state, and adding some dried cow manure with a little artificial well mixed with the soil. Two-year old plants give the best results, and may be grown two and a half feet high, and the same through. When growth commences the old ball may be greatly reduced and fresh compost given. After the repotting care should be taken not to over-water the plants, and when they have rooted into the fresh soil a close atmosphere must be avoided, and very little artificial heat is needed, except on frosty nights, for they appear to thrive well with cool treatment.

## The Three Best Shrubby Potentillas.

POTENTILLA VILMORINIANA was introduced from China by Mr. Maurice de Vilmorin, and is one of the most promising of new shrubs. Forming a bush from three to four feet high, and combining absolute hardiness, beautiful silvery foliage, and sulphur yellow flowers freely produced, it is an acquisition to the garden. To do the shrub justice, plant out in an open position where it gets the full sun, and give good soil.

Potentilla Veitchii is the best white shrubby Cinquefoil, and was introduced from China by E. H. Wilson. A young plant put out last autumn flowered freely in summer, and also gave a second smaller crop of blossoms in September. The flowers are pure white, with a yellow boss of stamens, and are backed by pleasing green foliage. This species promises to grow into a bush the size of *P. fruticosa*.

The richest and largest flowered, yellow shrubby Cinquefoil is *Potentilla fruticosa arbuscula*, which was raised from Sikkim seeds at Glasnevin. On account of the half prostrate habit it will prove valuable on the rockery. Up to the present it has grown two feet high and spread out three feet. The leaves and stipules are covered with whitish hairs. The stipules are very large, as large as the leaf pinnules. They are membranous, of a rusty brown colour, and, sheathing the stem, give the shrub a distinctive appearance.

*P. fruticosa humilis* is a neat little shrub, also useful for the rockery.



## Roses.

By O'DONEL BROWNE, M.D.

**B**Y this time all planting should have been finished and Roses should be snugly settled down in their permanent quarters. It will not merely do to plant them and leave them; one should go round the beds from time to time and see how the beds and trees are behaving. Wind has a most injurious effect on newly-planted trees, be they Dwarf or Standards. After every storm of bad wind look to your trees, and if there should be a loose tree gather some soil round the base and tread firmly. There is no necessity to stake Dwarfs, but you must stake Standards or half Standards.

delicate, and owing to their being perched up on stock are more exposed to rude winter. Get old wine bottle cases and pull them down, having previously tied in all the straggling growths over the crown of the tree. Get an extra strong and long stake to hold all firm, as the straw head will catch more wind. Why Standards should be such contrary things is a puzzle to many rosarians, but it is a fact for all that. Now, this thatching is a great inducer and exciter of precocious growth, for if you remove this covering, and if the weather has been mild, you will see that precocious growths have pushed out, some of which are white in colour. These growths are of no import if they are coming from the tops of the growths, but I do not like to see them coming from the base of the plant. They will be of no use to you at pruning time, go they must. Your best course is to



ROSA MOSCHATA FLORIBUNDA.—TEN FEET ACROSS.

Photographed at Glasnevin.

If the plants have long rods on them shorten them well back, as they will catch less wind by you so doing, and also the plants will be the better for this. Should a really sharp snap of weather come, and it looks as if it were going to last, you can give your delicate varieties, such as the Tea section, some extra protection. Straw, fern, or any protection, such as laurel or fir boughs, spread through and over the plants, will do a good deal to protect them from any harm. I never now use these measures, as I have found that the present day varieties, even of Teas, are far more hardy than those of yore, and, barring accidents, will come through most Irish winters practically unscathed. If I anticipate a sharp bout of frost I merely draw earth round and over the first three inches or so of the plant; this in itself is as good a protection as you will need. If you can protect the crown of the plant—i.e., the junction of stock and scion—you will save your trees, and by cutting back to this untouched part in the spring you will get just as good a plant as ever you had. Standards require more care. They are more

commence taking on some of the thatch as soon as the frost is over, little by little, to gradually bring your plant to stand its covering quite removed. Nature gives us the hint by blowing the covering away. It may be said that it was nature who made these growths push; so she did, but you aided and abetted her by covering. If possible refrain from all coddling of your plants; strive to get them, as they say in the west of Ireland, "to be as hardy as a wild duck." In the same way you should remove your earthing-up from Dwarfs. Mr. Pemberton in his book says that Roses which require such attention are not worth growing. I cannot agree with him. Varieties such as Comtesse de Nadaillac, Golden Gate, Muriel Graham are not to be despised, though I am sorry to say that we do not see them so often as we used to do. The modern Teas, such as Mr. Foley Hobbs, Wm. R. Smith, and Mrs. Myles Kennedy, are surely of the "wild duck" class, and are very welcome to us. The day is not far distant when we shall have more of these varieties, and then we can let our old friends go.



## Bulb Farming in Ireland.

*Concluded.*

ON April 12 I visited Messrs. Hogg & Robertson's bulb farms at Rush and at Malahide, 17 and 9 miles respectively from Dublin, and easily accessible by rail or over good roads by motor. The ground at Rush is a flat, sandy plain, partly sheltered from the sea blasts by low sand hills. Rush is one of the chief centres for early potato growing, parsnips and carrots being also largely cultivated. Owing to exposure, the fields, which are small, are protected with hedges and banks. The bulb grounds, although somewhat scattered, cover a large area. The effect from March to June produced by large areas of brilliant colour of Tulips, Anemones, and Narcissi, reminds one of parts of Holland, and justifies the name given, "Holland in Ireland." Tulips are grown here in quantity, early, mid-season, and late, Cottage, Darwin, and species, and all seem to thrive equally well. The foliage always appears to be abnormally large and succulent, and deep green in colour, and the bulbs are plump, heavy, and clean. Some of those which were most striking on the day of my visit were Prince de Ligny, Hector Van de Neer, Keizer Kroon, Pottbakker Scarlet, La Remarquable, King of Yellows, Kohinoor, White Bird, &c. The Darwins, of which large quantities are grown, were promising well, and later on amply fulfilled the promise.

La Mancha, where Mr. James Robertson resides, is about half a mile from Malahide station and from the sea, its name being made famous by the herd of Kerry cattle from which so many prize winners have emanated. The ground here is a good, sandy loam, much heavier than the soil at Rush, and there is also much more shelter. A large portion of the stock of choice varieties of Narcissi is grown here, and there were several acres of the older standard varieties. A five-acre field was one mass of colour from end to end. The white varieties of Ajax, sometimes found difficult to grow, were especially good and healthy, amongst them being Lady of the Snows, Mrs. Bette-ridge, Countess Cadogan, Mrs. Robert Sydenham, Countess of Mayo, Mrs. F. W. Moore, Peter Barr, &c. Other good varieties of other sections which were in evidence were White Queen, White Slave, Weardale Perfection, Bedouin, Florence Pearson, Great Warley, Lady Arnott, Lady Margaret Boscawen, Mrs. George F. Brooke, and Mona. The effect of such a quantity of flower in the soft evening light was pleasing in the extreme, and left a sense of complete satisfaction, and a feeling that as regards the plants "all was well."

On April 15 I went to Sligo to finish at Lissadell my inspection of the principal Irish bulb farms. Lissadell lies at the far, or northern, side of Sligo Bay, which is divided into two by a neck of land terminated by Roche's Point. The northern portion is known as Drumcliffe Bay, and on the shores of this is Lissadell, facing due south, well sheltered by woods, which were carpeted with primroses in full flower. Bulb growing is only one of the many industries carried on at Lissadell, as, in addition, there is a fine plant nursery, and forcing houses where tomatoes and strawberries are extensively grown, a poultry farm, a dairy farm, early potato farm, and a large sawmill which is kept supplied with timber from the estate, replanting being judiciously done to replace the felled trees. Sir Josslyn Gore Booth takes a lively personal interest in all that goes on, initiating and supervising it. The bulb farm is divided into two sections, garden and field. The garden section is a large piece of ground enclosed by hedges, with long beds eighty yards by three feet six inches, running due north and south, intersected by a

path in the middle, and in this enclosure are cultivated the newer and rarer varieties, also the seedlings. A day could profitably be spent studying these seedlings, of which there were many thousands, the result of various crosses. Some of these crosses gave promise of startling results in the near future, notably Triandrus × King Alfred, Triandrus × Mad. de Graaff, from which cross there were pure white, sulphur, and bicolor seedlings. Again, Minnie Hume × Triandrus albus produced some lovely white flowers, some plants with several flowers on each inflorescence, and some with single flowers of a fine Leedsii type, both chaste and charming. Mad. de Graaff × Weardale Perfection was another cross which produced some startling results. In fact, there were hundreds of crosses in every stage of development, those enumerated being only a few which were noted at the time as very promising. There were thousands of seedlings of pure poeticus, and Sir Josslyn was busy marking the most perfect flowers for further trials and crosses. This section seems to give satisfactory results more slowly than the others. Evidently much time, patience, and expense are necessary to obtain any marked advance on the select varieties already in the market.

From the garden section we passed to the regular farm. First to a ten-acre field on higher ground, protected by trees and by rising ground on the north-west side. The soil here is rather a stiff loam, but well drained. Many of the newer varieties, as well as quantities of the older sorts, were represented, including Incognita, King Alfred, Oriflamme, Mrs. Percy Foster, Orange King, Joseph Sangster, Queen May, Mrs. R. Sydenham, and most of the good poeticus varieties, all of which looked happy and flourishing. Lower down a field, about four acres in extent, contained large quantities of Emperor, Empress, Sir Watkin, Barrii conspicuus, Golden Spur, and others. The flowers of these were being cut and packed for market in a large shed, giving employment to a number of boys from the adjoining village. The cut flower trade here, as at the Warren Gardens, is quite extensive. There are other large fields close to the shore where enormous quantities of Narcissi are grown; indeed, one wonders where all the bulbs go. Although it is bulb farming, everything is most carefully and systematically done, "roguing" is strictly carried out, sick stocks are isolated or destroyed, and nomenclature is carefully checked. An interesting feature at Lissadell is a series of experiments carried on to ascertain which varieties are most suitable for cultivation in grass, or for pot work, or for forcing. The results are tabulated, and information is given to customers who make inquiries, and also in the catalogue. The rest of the day was given to inspecting the very complete collections of Alpines and of herbaceous plants, the wild garden, the rock garden, and other features, and also enjoying the magnificent views of the mountains which can be had from various parts of the grounds.

SIR F. W. MOORE in *The Field*.



The hall was dress'd with holly green.  
The damsel donn'd her kirtle sheen ;  
Power laid his rod of rule aside,  
And ceremony doff'd his pride.  
The heir with roses in his shoes,  
That night might village-partner choose ;  
All hail'd, with uncontroll'd delight  
And general voice, the happy night  
That to the cottage, as the crown,  
Brought tidings of salvation down.

—Walter Scott.

## Schizanthus.

By W. H. GREEN.

THESE charming greenhouse annuals are cultivated so easily and produce such a wealth of their pretty Orchid-like flowers that they have become popularly known as the "Poor Man's Orchid" and the "Butterfly Flower." Few plants have the same effect in the conservatory mixed with other suitable subjects or grouped by themselves. Their light, graceful habit adds much to the beauty of house decoration in early summer. Seeds should be sown in the month of July in light, sandy soil in pans one foot in diameter, place in gentle heat till the seedlings appear, when they must be removed to a shelf in a cooler place close to the roof glass, to keep the plants short and sturdy. When they have made a few leaves and are large enough to handle they should be potted singly into three inch pots, using nice light soil consisting of loam broken up fine and leaf-mould equal parts with a dash of sand added; give a good watering, place them on a shelf, and keep shaded for a few days till root action has taken place in the new soil. As growth advances give air and water freely; in a few weeks they will be ready for a larger size pot. This move should be to a five inch pot, using a similar compost, preferably a little rougher loam, pot moderately firm, place a neat stake to each plant and give a good watering. Winter the plants on a shelf where plenty of air can be admitted when the weather is mild. If specimen plants are required the best and strongest should be selected in the month of January, and give them pots from seven to eight inches, washed clean and well drained. The soil this time should consist of good, rough, fibrous loam and leaf-mould equal parts, with dried cow manure broken up to the size of hazel nuts, a ten inch pot full to the barrow of soil, with sand added and thoroughly mixed before potting. If the plants are inclined to grow to a single stem pinch out the tops a week before potting. Staking is a most important matter and should receive early attention, otherwise the plants are liable to fall about and become unshapely. Nice light stakes strong enough to bear each main shoot should be used, not too thick or they will look clumsy when the plants are in bloom. Under no consideration should the plants be allowed to suffer for the want of water, or the delicate, fern-like foliage, which adds so much to the beauty of the plant, will turn yellow and ruin the plants' appearance for any purpose. Weekly applications of diluted farmyard manure water will greatly assist plants which are commencing to bloom. Varieties are numerous, but the amateur will find all he wants in the choice mixed hybrids.



## PYRACANTHA ANGUSTIFOLIA.

THE European Firethorn is a favourite with everyone; when trained to a wall its evergreen foliage and orange scarlet berries are most effective throughout the duller months of the year. The variety *Lalandi* is the best form, and fruits very freely when grown as a bush.

*Pyracantha angustifolia* is a native of South Western China and a very near relative of the European Firethorn, although it was introduced as *Cotoneaster angustifolia* and is still sold under this name. In Co. Dublin it is not a success when grown as a bush, for the fruits remain green and do not colour. When trained against a sunny wall, however, it is a delightful subject, for it flowers and fruits with the greatest freedom; during December and January the berries take on a brilliant orange colour and are most attractive. The leaves are very long and narrow in proportion to those of the European Everlasting Thorn. There is another one of this set known as the White Thorn or *Pyracantha crenulata*.

## The Cotoneasters.

THESE beautiful and useful shrubs are fairly well represented in gardens by a few species and varieties which have been in cultivation for a good many years. Considering, however, that there are now some two or three dozen kinds in cultivation exhibiting immense variety in habit, it is to be regretted that only a few sorts should be met with again and again. Recent collectors in China have added a number of beautiful species to those already known, and others which have been in cultivation longer never seem to have become common.

Cotoneasters of one kind and another are eminently useful in many ways. As wall shrubs some of the evergreen species are not surpassed, their glossy leaves and bright berries rendering them most attractive in winter. For the rock garden some of the dwarf small leaved sorts are of exceptional value, as also are the creeping prostrate kinds. For the mixed shrubbery quite a number form handsome bushes either for planting singly or in groups according to the area to be planted.

Any soil of average quality will grow Cotoneasters well, and as the amount of pruning required is not great intending planters might with advantage give at least a share of their attention to this interesting genus. As town shrubs Cotoneasters are very successful, many good specimens of the older sorts being noted from time to time. Propagation can be effected by seeds and by cuttings. The following species are representative of those at present in cultivation:—

*Cotoneaster acuminata*, a Himalayan species with ovate, pointed leaves and bearing scarlet fruits; deciduous.

*C. acutifolia*, a deciduous species from Mongolia, bearing sharp-pointed leaves, which colour brilliantly in autumn; fruits, black.

*C. adpressa*, a new species introduced by James Veitch & Son, from China. It is of prostrate habit, admirably suited for the rock garden. The leaves turn a beautiful orange colour before falling in autumn.

*C. applanata* is another of Veitch's introductions from China. It forms an elegant shrub bearing ovate leaves and in autumn clusters of deep red fruits.

*C. ambigua*, a new species from China, of which only young plants are yet in cultivation. The leaves are deciduous and ovate or elliptic ovate in shape. It is described by Rehder and Wilson as "allied to *C. acutifolia*, from which it is distinguished by the generally ovate less pubescent leaves and more densely pubescent calyx." The fruits are described as black.

*C. bacillaris*, an old and well known species from the Himalaya. It is sub-evergreen in fairly mild districts and produces abundance of black fruits. It will form a very large shrub or small tree if allowed to develop, and forms a handsome specimen for parks and pleasure grounds.

*C. bullata*, also introduced by Veitch, is a handsome species, bearing fairly large, wrinkled leaves, which are woolly below, and clusters of red fruits in autumn.

*C. buxifolia*, a well-known evergreen from the Himalaya, and one of the most desirable. The leaves are comparatively small, ovate in shape, and woolly on the under surface. The white flowers are rather attractive in spring, and are succeeded by deep red berries in autumn, when the shrub is, perhaps, most attractive. Growing only three to four feet high, it is useful for shrubberies, specimen beds, and the bolder style of rock garden.



*C. disticha*, another Himalayan species, having small rather pointed leaves furnished with a dense tomentum below. The fruits are very small, reddish, and not very freely produced.

*C. Franchetii*, introduced some years ago from Yunnan by M. Maurice de Vilmorin, makes a pretty shrub. The leaves are rather small, of a grey-green colour, densely woolly on the under surface. The fruits, which are freely produced, are bright orange red.

*C. frigida*, from the Himalaya, is an old denizen of our gardens, and still one of the best. The leaves are large, oblong, and pointed, furnished with a woolly tomentum on the under surface. The flowers are produced in large corymbs, and are succeeded in autumn by clusters of bright red berries, which are highly ornamental.

*C. foveolata* is a new species from China, of which only young plants are in cultivation at Glasnevin. It is apparently a strong grower, of rather erect habit. The leaves, which are deciduous, are ovate or broadly lance-shaped, and the fruits are described as black.

*C. horizontalis* is an old favourite from the Himalaya, and much used for furnishing walls, rock gardens, &c. It is sub-evergreen, occasionally suffering from frost in exposed places, but in sheltered localities is probably quite evergreen. It is a small-leaved species, producing its branches in a horizontal manner, and bearing a good crop of bright red berries annually.

*C. humifusa* is a comparatively new sort from China, put in commerce some years ago by James Veitch & Son. It is well adapted for rock-work, producing long slender branches which creep over the surface of the soil and among the rocks in quite a charming way. It is evergreen, bearing pretty dark green leaves and scarlet fruits.

*C. integerrima*, a European species, bears round or oval leaves, hairy on the under surface. It is a deciduous species, producing pinkish flowers in spring, followed in autumn by pendulous red fruits.

*C. lanata*, another deciduous species from the Himalaya. It has the merit of bearing bright red fruits in the autumn and winter, for which reason it is valuable at that time.

*C. Lindleyi*, from the Himalaya, has roundish obovate leaves, and bears black fruits in autumn. It is a deciduous shrub, for general planting surpassed by a number of other species.

*C. microphylla*, a well-known evergreen Himalayan species, much used in rock gardens, in shrubberies, and other places about the pleasure grounds. The leaves are quite small, somewhat oval, and dark glossy green above and hairy on the lower side. Old plants are nearly always in flower, and the bright red fruits are freely produced.

*C. microphylla glacialis*, often called *C. congesta*, is a prostrate form of considerable merit for furnishing banks and large rockwork.

*C. multiflora*, an old species which has recently received more attention, is one of the best for spring effect. It is deciduous, producing long, rather slender, branches, which in spring produce many corymbs of creamy-white flowers. Grown as a standard, with a clear stem four or five feet high, a very pretty effect is produced.

*C. Nummularia*, a European and Asiatic species, has roundish leaves and whitish flowers, succeeded in autumn by black fruits. It is practically deciduous and has no very great ornamental value.

*C. pannosa*, a Yunnanese species, bears considerable resemblance to *C. Franchetii*, alluded to above.

The leaves are similar, of a grey-green colour, and the small, red fruits are freely produced.

*C. rotundifolia* is an old species from the Himalaya and not surpassed for general use by any recent introduction. The rather small leaves are roundish or orbicular, dark green above, and rather woolly on the lower side. The white flowers, borne in spring, are followed in autumn by large, red fruits, when a well-grown bush is very effective.

*C. rugosa* Henryi, sent out by Veitch, is a new Chinese sort, which gives promise of being a handsome shrub when well developed. It bears handsome, wrinkled leaves, two to three inches long and about an inch wide. Corymbs of whitish flowers are produced in spring, and clusters of small, red fruits follow in autumn. The plant is sub-evergreen.

*C. salicifolia* is a new species from China only recently described. Spring plants three or four years old are in cultivation at Glasnevin, but have not yet flowered. There would appear to be a good deal of affinity among some of these new Chinese species since the leaves now being produced on branches of the present year of *C. salicifolia* var. *rugosa* differ entirely from the early or juvenile stage, and hardly differ from those of *C. rugosa* Henryi. It is probable that on the plants becoming more mature some revision of the nomenclature may be necessary.

*C. Simonsii*, an old favourite from the Himalaya and hardly requiring any description here. It is in general use everywhere for walls, shrubberies and many other purposes. Hardly ever failing to produce a crop of fruits, which are highly ornamental, this sub-evergreen species is yet one of the best.

*C. thymifolia*, also Himalayan, is one of the best of the small, low-growing kinds. The tiny, dark green leaves are white beneath, while the pinky white flowers produced in spring are followed in autumn by scarlet fruits. A low-growing, neat habited species eminently suited for the choicest rock garden, being evergreen and capable of a pleasing winter effect.

*C. newryensis*, which originated in the fertile nurseries of Mr. Thomas Smith at Newry, is a giant form of *C. Simonsii*, and has all the good qualities of that species combined with a robustness which makes it valuable in less favourable localities.

## Hints to Amateurs.

By R. M. POLLOCK.

**P**RUNING AND SPRAYING will be the chief work this month, and if done early we can all enjoy our Christmas holiday with a clear conscience. Take advantage of all bright, open days and make a start at it, but do not prune in frosty weather, and follow the directions in last month's issue. Where young apple, pear or plum trees have been planted in the garden, they will require pruning either this or next month. The most common form of tree, and perhaps also the most convenient, is the Bush. In bush trees of apple and pears all the wood (growth) in the centre should be cut out and all crossing branches removed. All side growths should be shortened to form spurs where the fruit will eventually be. This leaves the centre open and a number of branches bearing spurs radiating from the base, all receiving plenty of light and air. When all the pruning is done collect the prunings, burn them, and start spraying. On apples and pears where spot and scab were present, a spray consisting of a solution of "Bluestone" (sulphate of copper) may be used. One pound of bluestone to



twenty gallons of water is quite strong enough (although the Department's leaflet on "The Apple" recommends one pound to ten gallons of water). Sulphate of copper can be had at the rate of 1s. 6d. per lb. from any druggist. It takes a considerable time to dissolve, so that it is well to prepare the mixture a day or so before it is required. This, as well as most other sprays, are the better for being applied with a sprayer. Of these there are several, and the *Ermette* is as satisfactory as any, although it does not hold a very large quantity of liquid at a time. It is a hand machine, and can be had for 25s. complete with rubber tube from any of the Dublin seedsmen. This rubber tube is not a necessity, but enables the user to spray larger trees with greater ease. When buying it is advisable to get some information as to the working of the machine, as sooner or later it will go wrong and get stopped up, and one then feels rather a fool not to know how it works. Remember, too, not to leave any liquid in the sprayer after use, as this corrodes the inside, and it is these small particles that stop up the passages in the sprayer. When the spraying is completed fork over the ground under the trees, as it will have got hard with the tramping. Fork over all borders after planting and give them a tidy appearance, but be careful not to injure bulbs, as they will still be below the surface of the soil. Any alterations should be put in hands at once and the planting done as soon as possible. When planting remember to allow space for the plants to spread their stems when in full growth. Overcrowding is disastrous, as then the full value of the plant cannot be obtained. All carting, such as bringing in manure and removing rubbish, should only be done when the ground is dry, otherwise the soil lifts, and if frost comes it dries in hard ridges and is unsightly. Christmas Roses coming into bloom will do well with a covering either of small hand lights or branches of some evergreen. This is simply to keep them clean from mud splashes, and it also tends slightly to draw them up a bit and so make the stalks longer.

**WET DAY WORK.**—In a garden, no matter how small, there are always jobs, if jobs are wanted, for wet days that is to say, work that can be done under cover, and which if not done during the winter will have to be done on fine days, and so delay more important work. Pegs for layering Carnations can be made. These are always wanted, and can be made either from short birch twigs or from wire. Cut the wire eight inches or so long and turn over one end, so making a hook. Labels—these get lost, buried, or they decay away altogether. Any fit to save can be scraped and painted, and it is only necessary to paint one side. Some may even be written on with the names of the first spring sowings, for which labels are sure to be wanted. Stakes, which are untidy things to have lying about, can be sorted into sizes, scraped and tied up. Long ones that have decayed at the base may have the end removed and be re-pointed. Boxes for cuttings or seeds can be looked over, cleaned, and mended where necessary. A "handyman" can run these together with very little trouble, which could also be done during the winter months.

**GREENHOUSE.**—Some of the Chrysanthemums will be out of flower. These should be cut down to within a foot or so of the base and put in a bright place, pre-

ferably on a shelf near the glass, or in a frame, until good, firm growths are made. These growths make the best cuttings, and should be inserted singly in small pots in a compost of fine loam and leaf-mould with a small proportion of sand. Keep these cuttings close—that is, under a glass or handlight—until they are rooted. They will not require heat, and will make firmer and more satisfactory plants without it. If *Lily of the Valley* is wanted for Christmas and New Year, the retarded crowns should be ordered at once and potted up. If this plan has not been tried before, get a few and see how they turn out. *Cinerarias* will be in full flower, and the "garden varieties" will require plenty of room owing to their large leaves. Those in the habit of growing this variety should see the new colour, a beautiful brick red, under the name of "*Matador*," a very distinct and uncommon colour. It is now in flower at the Botanic Gardens, Glasnevin, and can be seen there in the large show house, known as the *Camellia House*. Splash as little water as possible in the greenhouse during the dull months, especially where there is no heat, as there is very little drying in the air, and more deaths are caused during the winter from damp, both indoors and outside, than from the actual cold.

A useful and inexpensive Christmas present is a book called "*Saturday in my Garden*," by F. H. Farthing, price 3s. 6d.—a most useful book for amateurs with small gardens.

A happy Christmas to you all!

## Bulbs in Bowls.

BULB culture in bowls appears to increase in popularity every year. The reason is not far to seek, for anyone interested can make a try and often be successful in their own house. A greenhouse, garden, or even special knowledge is not required. If good flowering sized bulbs of Daffodils, Tulips, Hyacinths or Crocus, &c., are purchased these will already have their flowers in an embryo state in the bulbs; reserve food is stored in the scales of the bulbs, so that all the bulbs require is a supply of moisture, light air, and a porous compost in which the roots may ramify.

Messrs. Hunter & Gow, wholesale horticultural sundriesmen, in Liverpool, have designed a new double octagon bowl with white body and blue figures. It contains an inner bowl with holes in the bottom, resting on the outer one, thus enabling the water to drain into the outer bowl without disturbing the bulbs. This prevents any possibility of the water lodging in the inner bowl with the fibre, and so keeps the bulbs and fibre in a sweet and healthy condition.

A novel and cheap way of growing small Hyacinths, Crocuses, or other bulbs is as follows:—Gather a supply of moss from a damp hedgerow, make a solid ball of this about six or eight inches in diameter. Place the bulbs all round the ball, adding moss between and over the bulbs until they are covered, and tie firmly with string or fine wire to keep moss and bulbs in position. Run a strong piece of wire through the ball, fasten one end in the ball, and loop the other so that the ball may be hung up in a light place, then an occasional dipping into a bucket of water is all that the bulbs require.



HUNTER & GOW'S BULB BOWL.

## Reviews.

## Cassiope.

## JAPANESE GARDENS.\*

MRS. BASIL TAYLOR'S book is not a technical treatise on how to make Japanese gardens, but intends to lead the visitor to more understanding, and to the untraveller it conveys, with the help of Mr. Tyndall's beautiful coloured pictures, a glimpse of Japanese gardens at their best. Apparently something is lacking in our imitation Japanese gardens; some are mere fiascos with an imitation stork or a lantern placed here and there, others more attractive have been condemned, perhaps unconsciously, by Japanese, who say "they are really beautiful, but we have nothing like them in Japan." As the temperament of the Jap differs widely from that of the Britisher, so the gulfs are great between their respective ideals of gardens.

We flower-loving mortals would hardly call theirs a garden; it is more a miniature landscape. Flowers are but a secondary consideration; shrubs are often clipped before flowering; trees are often distorted to give the impression of age; everything is done to preserve the balance in the landscape.

Stones are most important in the Japanese garden, each one receiving a name and having a definite meaning. Water usually gives life to the garden scene, and here we might more often take a hint from the Jap, for, as Mrs. Basil Taylor writes, "no one knows better than the Japanese landscape artist what compound interest in beauty he reaps by the repetition and reflection of his earthy garden in his watery one—clear, shallow, moving water which can sparkle while it reflects is the essential idea, for it suggests happiness and serenity, the gaiety of nature as well as its tranquility."

Like the Britisher who is careful that the port does not go round the wrong way, the Jap observes the superstition of going with the sun, so that the Jap's water supply must enter the garden from the east and leave it by the west.

Some of the Japs' favourite flowers are the Iris, Lotus, Plum Blossom, Wistaria, Chrysanthemums, and Morning Glory. In this country Japanese gardens of fair size have proved expensive hobbies, and we still prefer our own more or less natural style.

Mrs. Basil Taylor writes with enthusiasm about her subject. The book is handsome, rather large, but well got up, and the illustrations are beautiful. F. B.

## FRUIT GROWING FOR BEGINNERS.†

By F. W. HARVEY, F.R.H.S.

THE book under notice is cheap enough to be within reach of all in any way interested in the cultivation of fruit. Although not elaborately bound, the printing is clear and very easily read. The essential details in the cultivation of all our more important fruits are briefly but adequately dealt with. There is an absence of unnecessary discussion of every-day problems which will appeal to those for whom the work is intended. The young gardener and the amateur will find the main facts set forth clearly and in a practical way. Chapters are devoted to Soil, Situation, Propagation, &c.

In a future edition it would be an advantage if a clear indication were given to the amateur of which fruits and which varieties are most suitable for the small garden. Obviously the amateur who is to do his own cultivating cannot have a very large garden nor many glasshouses.

The sketches illustrating pruning are useful, while the monthly reminders are brief and to the point.—J. W. B.

\* "Japanese Gardens," by Mrs. Basil Taylor. Published by Methuen & Co., 36 Essex Street, Strand, W.C. 21s. net.

† Country Life, Ltd., 22 Tavistock St., London, W.C. Price 1s.

THE Cassiopeas are tiny Alpine bushes, somewhat resembling the Heaths in flower and in general appearance. There are three species in cultivation—*C. fastigiata* from the Himalayas, *C. tetragona* from Lapland, and *C. hypnoides* from Lapland and North America. Unless their requirements are understood they are by no means easy plants to grow, but when attempts are successful these plants are to be numbered among the choicest Alpines for the rock or bog garden. They appear to like a partly shaded position and a peaty soil, well drained, but moist; stagnant moisture is detrimental, and, on the other hand, drought is almost fatal.

The happiest plants at Glasnevin are planted on the flat, where they are shaded by a north wall, and never get the sun until it has lost its mid day power.

*C. fastigiata* is a beautiful, free flowering plant, growing nine inches high. The flowers are solitary, white, and bell-shaped, reminding one of an *Andromeda*. The five segments of the corolla are recurved, and show the pink centre of the flower, and curious awned stamens like those of the *Arbutus*.

The leaves are imbricated in four rows, and have white membranous margins; they overlie one another so closely that they completely clothe the stem. *Cassiope fastigiata* was figured in the Botanical Magazine t. 4796 from a plant growing at Glasnevin. It was raised from seeds collected in north-western Himalaya, where it is said to be fairly abundant at an elevation of twelve thousand to thirteen thousand feet.

*Cassiope tetragona* is a more common plant than the former, but not so beautiful. The foliage has a more grassy-green colour, and the stems are more branched. The flowers are about half the size of *C. fastigiata*, and not so freely produced. The growth, however, is freer, and if the stems are pegged down they root freely. In April this plant produces its little, white, bell-shaped flowers about three weeks before its Himalayan relative.

*C. hypnoides* is a dainty creeping, moss-like plant, bearing solitary drooping flowers on somewhat long stalks. Under cultivation it is not usually a success.

C. F. B.

## National Sweet Pea Society.

## SWEET PEA TRIALS FOR 1913.

THE Committee of the National Sweet Pea Society will hold trials of Sweet Peas at the Burbage Experiment Station, Leicestershire, conducted by Major C. C. Hurst, F.L.S., in 1913. No certificates or awards will be granted to novelties unless they are sent for trial.

For the Novelty Trials a charge of 2s. 6d. per variety will be made, and novelties will be accepted only from the raiser or introducer. Thirty seeds of each novelty must reach the hon. secretary, Mr. C. H. Curtis, Adelaide Road, Brentford, Middlesex, before January 4th, 1913. The seeds must be placed in plain packets, but each packet must bear a number or letter for purposes of identification. With the seeds there must be a letter bearing the sender's name at the top, the number or letter of each variety sent, and opposite such letter or number the name of the variety (if any), the colour section to which it belongs, and (if orange or salmon) whether it should be shaded.

Sweet Peas will also be tested for purity at a charge of 10s. per stock or variety sent. Not fewer than two dozen seeds should be sent. In every case the amount due for trials charges must accompany the seeds. Every sender will receive the report of the Floral Committee in the autumn of 1913.



## Wheat Experiments at the Albert Agricultural College Farm, Glasnevin.

SEASON 1911-12.

**I**N order to test the yielding capacities and quality of several French and certain other varieties of wheat, the Department carried out a series of field tests at the Albert Agricultural College Farm, Glasnevin, Dublin, in 1911. The results of these tests were published in the Department's Annual Report on Wheat Experiments for that season. The tests have been repeated this year and the list has been supplemented by four other varieties. Three of these were Danish wheats imported by the Department from Copenhagen, and one a variety grown to some extent as a spring wheat in Counties Carlow and Kildare.

The yields for 1912 are, with one exception, considerably below those for 1911. The average yield of wheat on the farm for a number of years past has been about twelve barrels per statute acre. All the French wheats show a large decrease, and the only increased yield for the whole series is that of Red Fife, the seed of which was obtained from the produce of some hand-selected ears grown by the Department in 1910.

The three Danish varieties, Queen Wilhelmina, Tystofte Small Wheat and Danish Square Head, gave very good yields. In point of quality Red Fife was undoubtedly the best wheat of the series, next in order coming Burgoyne's Fife. Queen Wilhelmina, a white wheat, may be placed next, and then, a long way behind, White Marvel.

Tystofte Small Wheat and Danish Square Head are varieties of the Square Head Master type, but not so coarse. The French varieties, with the exception of White Marvel, are very poor quality, Dreadnought and Perfection being wholly unsuited for milling requirements. The partial failure of Perfection this year was in large measure due to bad germination of the seed.

Regarding the two new hybrid wheats, Little Joss and Burgoyne's Fife, while the former is undoubtedly the heavier yielder, in quality it is greatly inferior to Burgoyne's Fife. Other things, such as quality of straw, being equal, there is nothing to recommend Little Joss in preference to Tystofte Small Wheat, a variety which by reason of its productivity and generally acceptable quality is grown extensively in Denmark.

Of all the varieties tested, Queen Wilhelmina, on account of its yielding capacity and quality, appears at present to be the most desirable wheat, and certainly merits the attention of Irish wheat growers.

## The Month's Work.

### Flower Garden and Pleasure Grounds.

By A. CAMPBELL, Gardener to Lord Ardilaun,  
St. Anne's, Clontarf.

**W**E are now drawing near the close of another year, and it will be well to glance back and note any weak points in the garden arrangements during the past summer and autumn. Alterations or improvements can now be made, should it be desirable, add some new or choice plants to the herbaceous beds or borders, which would certainly make them more interesting; remove any duplicate clumps to make room for such.

All Roses can now be planted, and the soil must be thoroughly prepared for them if we expect good results.

When planting, spread out their roots and make firm. Stake where necessary, and mulch to protect their roots and prevent evaporation.

Prune and regulate shrubs. Some of the stronger growers, such as Laurels, Bays, Laurestinus, &c., are apt to overpower their less vigorous neighbours. They should be freely cut back so as to admit light and air to the weaker plants, but care must be taken to leave sufficient to afford the necessary protection for the weaker or more choice



CASSIOPE FASTIGIATA.

See page 186.

varieties. Trees or shrubs required to be removed or planted should now be attended to. Stake, water and mulch as the work proceeds. Rampant Roses and all climbing plants should be carefully examined. Roses should have the old and weak wood thinned out, and all their strong shoots which have grown and matured during the summer and autumn laid in full length; these will flower freely early next summer.

Clematis of the Jackmanni type should now be cut to within one foot from the ground and receive a good dressing of decayed cow manure, worked in about their roots; they will then grow freely and cover their allotted space before summer with healthy shoots and foliage, and flower profusely. Clematis, like *C. florida* and *Lanuginosa*, should only be thinned and regulated, as most of their bloom is produced from the previous year's growth. All creepers when tied in should have a good dressing of decayed manure worked in at their roots. The more tender varieties should be mulched with a dry, light material, and later on protect their growths with spruce branches as a guard against cutting, harsh winds.

The garden and pleasure ground should be kept neat



and clean by having the grass swept and all fallen leaves removed; edges of beds, if in the grass, trimmed; walks cleaned and rolled. Shrubberies can have the surface soil pointed with a digging fork, burying all leaves which may be lurking beneath the plants; this should follow after pruning and regulating have been done. There are few plants which bloom in the open during December, but if the garden is kept clean and all unoccupied beds and borders turned up to the influence of the frost, the few things which are in bloom and those with bright berries will be seen to greater advantage. The past year has been unfavourable to many plants which delight in warmth and bright sunshine, the unusual amount of rain causing luxuriant growth to the detriment of the bloom. Other plants have benefited by the moisture, having made splendid growth, which will mature and set with abundance of flower buds; this refers to the many delightful flowering shrubs and trees.

### The Fruit Garden.

By L. CHILDS, Gardener to the Earl of Meath,  
Killraddery, Bray.

**H**ARDY FRUIT GARDEN.—If the planting of various kinds of fruit trees which I recommended in my notes for November are not yet completed, you should lose no time in carrying out the work whenever weather conditions are favourable and the soil in good working order. At any rate, make sure that you have no unnecessary delay in finishing all planting operations during the old year when possible. Then give them a mulching, and make sure that they are staked and planted firmly in the ground. The pruning of all established trees on walls, &c., should also be done at once, for it is a mistake leaving your pruning until spring-time, when you will be sure to have plenty of other important duties to require your attention in every direction. Be careful to collect and burn all prunings, for I venture to say that neglect of this work is responsible for the increase of scale and American blight in many gardens. You will obviously be courting trouble and giving untold labour for the future if you are careless in these matters. Having finished your pruning, attention should now be directed to the next most essential matter of cleaning and spraying. Use some good insecticide for this purpose in Knapsack spraying machine. For preference use Cooper's Vt fluid for winter cleaning. But in case of American blight take the precaution of going over the trees a second time, and use a brush if necessary, for it will not be found an easy matter to eradicate this tenacious pest. Afterwards scatter some fresh lime over the beds, and carefully fork it into your borders. Pruning, tying and cleaning work all completed, nothing more will be needed until you give them another spraying in spring-time.

**EARLY VINES AND PEACHES.**—Start the above very gently. Little or no heat will be required for some few weeks, unless just for keeping out the frost. Spray over the canes and trees during bright weather, and make sure that you leave no plants about that are

infested with mildew. Everything should be scrupulously clean at the commencement of the growing season. Directions have already been given in previous numbers for the renovating of unsatisfactory borders containing the roots of early vines, and attention may now be directed to the borders of late vines. If there has been any trouble with shanking, this is direct evidence that there is something wrong, and that special care and attention is needed when the roots extend into outside beds. These should be treated first. Then if you find most of the roots too deep down in the border take out a trench at its extreme end and gradually work the soil away up to a point near the stem of your vine, doing as little damage as possible. Then coil the roots and protect with damp mats. See that the drainage is made perfect and relay the roots. Next cover them up again with fresh material of turf, grass downwards, mixed with old mortar rubble and broken bricks as the work proceeds. Cut away portions of damaged roots and carefully preserve those which are most fibrous, and topdress with some good, chopped soil, bonemeal and wood-ashes being added. Tread the bed tolerably firm, and apply a thorough watering a few days afterwards.

### The Vegetable Garden.

By WM. TYNDALL, Horticultural Instructor,  
Co. Kildare.

**T**HIS is one of the slackest months of the year in the vegetable garden, the principal work being to get the digging and trenching finished, if the weather permits, so that the soil will be exposed to the good effects of frost, &c., for the first couple of months of the coming year before the general cropping is begun. All leaves and weeds should be cleared off and either burnt or placed in a heap to decay, so that every place in the vegetable garden is clean and tidy at the close of the year.

The forcing of rhubarb and seakale must now have attention so that a constant succession is maintained, and if a supply of good dry leaves (oak and beech are best) and stable manure, turned a couple of times before using, can be had, there should be little trouble in providing a supply treated as recommended last month.

The weather for the past couple of weeks has been so mild that cauliflower plants and lettuce wintering in frames will require plenty of air to prevent damping, so that the plants will grow sturdy and strong.

Potatoes intended for early planting should now be placed in sprouting boxes, selecting medium-sized seed that will not require cutting. Until the sprouts start growing it is not necessary to give much light, so that the boxes can now be placed one over the other for some time till the sprouts start to grow, when more light can be given.

Seed catalogues will soon be arriving, and during the long evenings of this month the seed order should be made out, selecting those kinds that have been found to do best, as different soils have a great effect on many varieties of vegetables.

“Again at Xmas did we weave  
The Holly round the Christmas Hearth.”

—*Tennyson's In Memoriam.*

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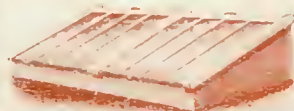
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Extract from the *Daily Mail* of July 31 11, on the lasting qualities of Mauve and Lavender Sweet Peas:—"That delightful lavender sweet pea Nettie Jenkins held out against the adverse conditions longer than any other variety."

### ERIC HARVEY (Unwin's)

White ground, wings edged deep rosy pink, front of standard slightly tinged rosy pink, back of standard heavily suffused bright scarlet pink. Spencer type. Per pkt., 25 seeds, 4d.

### Mrs. R. HALLAM (Unwin's)

This is a charming variety, colour soft salmon, flushed primrose at base of standard. True to colour, and Spencer type. It is unanimously acknowledged to be the best in its class. Strong

grower, producing large and beautifully formed flowers on good long stems. Per pkt., 25 seeds, 6d.

### MADGE RIDGARD (Unwin's)

White ground, slightly flushed with heliotrope pink. A very pleasing shade, and quite distinct. Splendid for table decoration. Strong grower and perfect Spencer type blooms. Per pkt., 25 seeds, 4d.

### FREDA UNWIN

A pretty, clean, light blue self, in form and size resembling Nora Unwin. A very strong grower. Free flowering, and a good pea in all respects. Per pkt., 20 seeds, 6d.

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**Etta Dyke** (Unwin's), a fine white of the Spencer type, grand for exhibition and decorative purposes. Per pkt., 25 seeds, 3d.

**Nora Unwin**, a pure white, beautifully waved, the most popular variety of its class. Per pkt., 25 seeds, 2d.

### PINKS

**Countess Spencer**, a rich pink, deepening towards the edges. Per pkt., 25 seeds, 3d.

### CRIMSON AND SCARLET

**Doris Burt** (Unwin's). Colour: Glowing scarlet, shaded cerise. It carries large bold blooms nicely placed on good stems, and is a fine grower. Per pkt., 25 seeds, 4d.

**King Edward Spencer** (Unwin's). A rich crimson scarlet, enormous flowers, beautifully waved, and most vigorous grower. My own carefully selected sunproof stock; the best of its class. Per pkt., 25 seeds, 4d.

**Queen Alexandra Spencer**. Large scarlet of fine form, and sunproof. I grew this in quantity, and it is a first-class pea, and perfectly true. Per pkt., 20 seeds, 6d.

### BICOLOR

**Arthur Unwin**. This variety has made a great impression amongst exhibitors, and its popularity is assured. It is exceptionally vigorous, producing extra large refined flowers borne on very long, stiff stems. Easily the best bicolor, and every exhibitor should grow it. Colour: Standard bright rich rose shaded cream, wings cream, suffused light rose. Spencer type. Per pkt., 25 seeds, 4d.

### ROSE AND CARMINE

**Marjorie Willis**, Spencer type, rich glowing rose. Per pkt., 25 seeds, 3d.

**John Ingman** (Unwin's), a deep rosy carmine self, Spencer type. Per pkt., 25 seeds, 3d.

### ORANGE SHADES

**Edna Unwin (Improved)**. This has been a great success this last season, and undoubtedly is the best variety in its class. The colour is a most dazzling orange-scarlet, and a bunch well grown is lovely. It is vigorous, and produces large, bold flowers, and is a free bloomer. For exhibition it is most telling, and no collection is complete without it. Per pkt., 25 seeds, 6d.

**Earl Spencer** (Cole's Stock), deep orange self. One of the best exhibition varieties. Per pkt., 15 seeds, 6d.

**Helen Lewis**, a lovely orange salmon of the Spencer type. Best of its class. Per pkt., 25 seeds, 3d.

### MAROON

**Douglas Unwin**, a beautiful rich self maroon of the largest Spencer type. Per pkt., 25 seeds, 3d.

**Red Chief**. A large red maroon Spencer. Per pkt., 15 seeds, 1/-.

### PICOTE

**Mrs. C. W. Broommore**, deep primrose ground, with rich rosy picote edge. Extra vigorous. Spencer type. Per pkt., 25 seeds, 4d.

**Dainty Spencer**, an improved Elsie Herbert. Per pkt., 25 seeds, 4d.

### BLUSH

**Mrs. Hardcastle Sykes**. This is one of the most lovely of all Sweet Peas, giant Spencer form, soft blush pink; one of the best for exhibition. Per pkt., 25 seeds, 3d.

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### BLUE

**Flora Norton Spencer**, a bright blue, flowers of fair size, a very good variety. Per pkt., 25 seeds, 3d.

### MAUVE

**Tennant Spencer**, a rosy-mauve self, clear and distinct; best of its class. Per pkt., 25 seeds, 3d.

### LAVENDER

**Asta Ohn Spencer**, lavender, suffused with mauve, a very large and good variety. Grand for exhibition. Per pkt., 25 seeds, 3d.

### FANCIES

**Cladys Burt**, a soft rich salmon-pink, on deep primrose ground. A most lovely variety, and quite the best of its class; a grand Pea for exhibition. Spencer type. Per pkt., 25 seeds, 4d.

**Constance Oliver**, a fine flower, of the true Spencer type. The colour is a rich pink suffused with cream on a cream ground. Quite the best of its class. Per pkt., 25 seeds, 3d.

**Charles Foster**. A large metallic opal-pink, delicately suffused pale rattleaya mauve. A very pleasing combination of colour. Per pkt., 15 seeds, 1/-.

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Countess Spencer  
Douglas Unwin

Constance Oliver  
Marjorie Willis  
King Edward Spencer  
Helen Lewis

Nettie Jenkins  
Doris Burt  
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Tennant Spencer

Beautiful  
Colours

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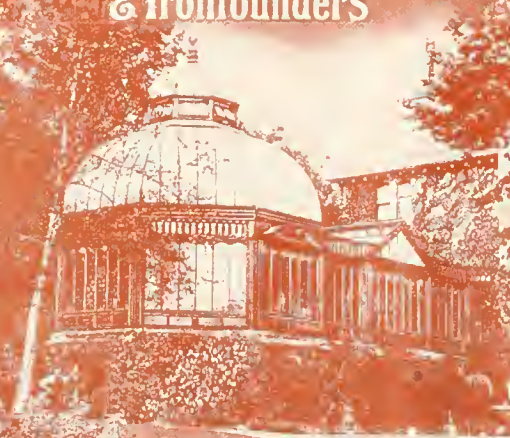
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## Royal Horticultural Society of Ireland.

THE Annual General Meeting was held at the Society's offices, 5 Molesworth Street, Dublin, December 14th, the chair being taken at 3 p.m. by C. M. Doyne, Esq., D.L., Vice-President. After the opening business, letters were read from Lord Ardilaun, President, and the Earl of Meath, Vice-President, regretting inability to attend the meeting. Alderman Bewley, with Messrs. R. T. Harris, F. G. Bell, and R. Anderson, were appointed scrutineers of the ballot. The 82nd Annual Report having been read by Sir Frederick W. Moore, Hon. Secretary, it was moved by Mr. D'Olier and seconded by Sir Frederick Shaw, Bart., that the Report, with Statement of Accounts for the year ending December 1st, 1911, be adopted, and being put to the meeting was carried *nem. con.* The accounts show a credit balance of over £50 on the year's working, the balance of assets over liabilities being £231 11s., whilst £300 odd, paid out in cash prizes during the year, is considerably more than any prize list of recent years. It was moved by Mr. D. L. Ramsay, J.P., seconded by Mr. J. Wylie-Henderson, and passed unanimously, that the last clause of Rule XV. be amended to read, "but those who have attended at least one quarter of meetings of Council shall be eligible for re-election without nomination." Messrs. Ormsby and Rhodes, the Auditors, were re-appointed for the ensuing year. On the declaration of the ballot it was found that the seven retiring members of the Council—viz., G. Watson, J. Wylie-Henderson, Lady Albretha Bourke, J. J. McDonough,

E. D'Olier, Mrs. Greer, and the Rev. Canon Hayes—had been duly re-elected members of the Council; Mr. W. Usher, Brenanstown Gardens, Cabinteely, Co., Dublin, being elected to the practical member's seat, vacant by the resignation of Mr. H. Crawford. A unanimous vote of thanks to the Chairman for his courtesy in presiding concluded the meeting.

## Books and Catalogues.

MESSRS H. CANNELL, of Swanley, Kent, send a very complete list of Chrysanthemums. New varieties for 1912, Singles, Pompons, the decorative varieties, and outdoor early-flowering kinds are all described.

MESSRS DRUMMOND send their Bulb List and Nursery Catalogue. In the latter may be found short descriptions of the various kinds of fruit trees, roses, flowering shrubs, and the more popular kinds of herbaceous plants. The illustrations in both lists are extremely good.

MESSRS W. & F. POAT, Tomato Growers, Guernsey, send us their booklet on "Tomato Plants Grown in Steam Sterilised Soil." This up-to-date firm caters for the small and the large growers, sending out young plants by the dozen or the thousand. Numerous testimonials give evidence of the satisfaction of the buyers, the parcel post system saving expense to the purchaser. A profitable crop for the grower depends largely upon whether the plant has a good or a bad start in life. Sometimes a young tomato plant is attacked by a disease

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"THE SMALL-HOLDERS' YEAR BOOK" is published by Messrs C. A. Pearson, Ltd., Henrietta Street, London, at the price of 1s. For those who are working a small holding for profit it will be found a very useful hand-book. It commences with a diary, then follows a Calendar of Work and Who's Who in Agriculture. Useful notes are given on the horse, cow, pig, sheep, &c. Poultry are dealt with both from the table and egg producer's point of view, and the importance of keeping accounts is emphasised. At the end comes bee-keeping and other various information.

FROM MESSRS. WEBB, Wordsley, Stourbridge, comes a large and comprehensive Spring Catalogue of Vegetable and Flower Seeds. This well known firm has a reputation for first-class and reliable seeds, and for the introduction of novelties. This year's list keeps up their reputation, for, besides illustrating and describing the different varieties, their

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America Spencer, bright rosy-scarlet flake, 3d.; Apple Blossom Spencer, rosy pink and bluish, 3d.; Black Knight Spencer (*or Othello Spencer*), rich dark maroon, 3d.; Constance Oliver, creamy pink, flushed deep pink, 3d.; Evelyn Nemus, primrose with pink picotee edge, 3d.; Frank Dolby, lavender, 2d.; Gladys Unwin, pink, 2d.; Helen Lewis, orange and rose, 3d.; John Ingman, carmine and rose, 3d.; Nora Unwin, white, 2d.; Paradise Ivory, pale primrose, slightly tinged with pink, 3d.; Scarlet Monarch, bright crimson scarlet, 4d.

### COLLECTION No. 4—12 BEST WAVED VARIETIES, 2/6

Asta Ohn (*or Mrs. Charles Foster*), best lavenders, 3d.; Clara Curtis, primrose, 3d.; Countess Spencer, large pink, 2d.; Earl Spencer, good salmon orange, 4d.; Elsie Herbert, white, with pink picotee edge, 4d.; Etta Dyke, finest white, 2d.; Helen Grosvenor, orange and rose, 4d.; Maud Holmes, rich sanguine of crimson, 6d.; Mrs. C. W. Breadmore, pale primrose, with pink picotee edge, 3d.; Mrs. Routzahn Spencer (*or Mrs. Henry Bell*), pale pink on cream, 3d.; Mrs. Hardcastle Sykes, bluish pink, 3d.; Tennant Spencer (*or The Marquis*), large rosy mauves, 3d.

COLLECTIONS Nos. 3 and 4 MAY BE HAD TOGETHER FOR 4/-, and 25 seeds each of Marie Corelli and Mrs. A. Ireland, free of charge.

COLLECTIONS Nos. 2 and 4 MAY BE HAD TOGETHER FOR 3/6, and 50 seeds of the choicest Spencer Seedlings free of charge.

## SPECIAL PRICE for the Four Collections. 6/-

Which, with the 6 added varieties, and 50 seedlings, will be the best collection ever offered for the money.

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In conjunction with MR. ROBERT HOLMES, of Norwich, we are putting the following splendid novelties on the market in 1912. All have come perfectly true in 1911, but are sold without guarantee the first year.

Barbara, a large salmon-orange self (6 seeds), 2/- not sold apart from the collection; Charles Foster, pale satiny pink, flushed pale mauve (10 seeds), 9d.; Edith Taylor, a distinct rosy cerise, or salmon-rose self (6 seeds), 1/6 not sold apart from the collection; Lady Evelyn Eyre, large pale pink, flushed salmon, or a large improved Mrs. Hardcastle Sykes (10 seeds), 6d.; Millie Maslin Spencer, large magenta-crimson (10 seeds), 6d.; Mrs. T. W. Warren, a bright Spencer form of Helen Pierce (10 seeds), 6d.; Orion, a dark glowing reddish crimson (10 seeds), 6d.; Scarlet Emperor, the largest and brightest scarlet (6 seeds), 1/3; Scarlet Empress, a large improved Scarlet Monarch (10 seeds), 6d.; Thomas Stevenson, the finest of the orange scarlet self (15 seeds), 8d.

SPECIAL PRICE FOR THIS COLLECTION OF 10 VARIETIES, 6/-

In addition to the above we offer

Arthur Green, rich claret, or plum-coloured self (25 seeds), 4d.; Elfrida Pearson, fine bluish pink, flushed salmon (25 seeds), 6d.; Ethel Roosevelt, pale rose flake on cream ground (25 seeds), 4d.; Florence Nightingale, one of the best lavenders (25 seeds), 3d.; Mrs. Townsend, a bluish white, with blue picotee edge (25 seeds), 3d.; Nubian, nest dark maroon self (15 seeds), 6d.; Pearl Grey Spencer, a pretty dove grey, shaded rose (12 seeds), 6d.; Rainbow Spencer, a new rose flake (15 seeds), 6d.

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SPECIAL PRIZES will be offered at about 100 Shows in 1912, varying from £2 to £50 at a Show

**SALTAIRE will be the £50 Show**

Full particulars on application



## Dublin Wholesale Markets.

**D**URING the earlier part of this month the appearance of the markets undergoes a transformation. The usual sameness disappears, and for a week or two, at least, large quantities of holly, ivy, and mistletoe, cut flowers and pot plants, create a pleasing scene which is especially welcome at such a dull period of the year. Owing to the exceptionally fine summer holly is particularly well berried this year, and the yellow-berried variety, which is usually so scarce, is much in evidence.

Cut flowers are much in demand just now, and are well supplied both from home and Cross-channel sources. Chrysanthemums are by far the most popular flowers, and preference appears to be given to white varieties, which generally realise a penny or two more per bunch than those of other colours. Paper White Narcissi are very plentiful, but they are by no means so popular as the Chrysanthemums, and it is doubtful if the price at which they were sold would more than cover the cost of producing them. Chrysanthemums, *Salvia splendens*, and *Gloire de Lorraine* Begonias comprise most of the flowering plants which are being offered for sale, and for these there is a brisk demand at profitable prices.

Hundreds of barrels of American and Canadian apples are in the markets at present, and these, together with boxes of pears, oranges, grapes and pineapples, temptingly displayed, make up a fine array. The presence of so much foreign fruit must have an injurious effect on the value of Irish apples, but it is pleasing to note that the price of these is steadily increasing. Pears have been very scarce this year, and home supplies are now almost nil. Buyers are now almost entirely dependent on supplies from France and California, which arrive in first class condition, but which, like the apples, lack the juiciness of the home-grown fruit. Grapes forwarded from Covent Garden and neatly packed in baskets which hold about 8 lb. of fruit are now commanding good prices.

The vegetable section is well supplied with seasonable produce, and as, with a few exceptions, supplies have not exceeded the demand, satisfactory prices have been obtained. Cabbages at present are rather scarce, and the same remark applies to turnips, so that these two popular vegetables are proving a profitable investment to their growers. Artichokes are now very plentiful, and the dry summer being favourable to their growth, the quality of the tubers is much above the average. There are limited supplies of radishes, sea-kale, cucumbers and asparagus, and they are eagerly sought after when put up for auction.

The following were the prices:—

HOME FRUIT.		From	To
		s. d.	s. d.
Apples—Bramley's Seedling	per barrel	10 0	18 0
Do.	per bushl. box	6 0	7 6
Bismarck	do.	5 0	5 9
Cooking, select	per doz.	0 9	1 0
Dessert	per 1/2 bushl. box	3 0	5 0
Grapes—Alicantes	per lb.	1 0	1 3
Muscats	do.	2 0	3 0
Pears—Dessert	per dozen	0 10	2 0

### FOREIGN FRUIT.

Apples—Canadian Baldwins,	per barrel	18 6	—
American York Imperials,	per barrel	21 0	—
Californian Newton Pippins	per box	10 0	—
Pears—French	per crate	6 6	10 6

### FLOWERS.

Arum Lilies	per doz. blooms	3 0	4 0
Chrysanthemums, various,			
Do.	per 3 bunches	0 6	1 0
Do. white	do.	0 10	1 3
Lily of the Valley	per doz. bunches	4 9	6 0
Myrtle	do.	1 3	1 6
Narcissus, Paper White	do.	1 4	1 8
Smilax	per 3 strings	0 8	0 10
Violets	per doz. bunches	0 10	1 3

### VEGETABLES.

Artichokes—Jerusalem	per float	1 6	2 0
Beetroot	per doz.	0 6	0 9
Broccoli	per basket	2 6	3 6
Brussels Sprouts	per float	1 6	2 6
Cabbages (York)	per load	12 0	17 6
do. (Savoy)	do.	11 0	15 0
Carrots	per doz. bunches	0 6	0 8
Celery	per doz.	1 0	1 6
Leeks	do.	0 3	0 4
Lettuce	per tray	0 4	0 6
Mint	per doz. bunches	0 9	1 0
Onions	per bag	8 0	9 0
Parsley	per tray	0 6	0 8
Parsnips	per doz. bunches	0 9	1 0
do.	per cwt.	3 6	4 6
Radishes	per bunch	0 2	0 3
Sage	per doz. bunches	1 0	1 0
Sea-kale	per punnet	1 6	1 8
Spinach	per tray	0 4	0 6
Thyme	per doz. bunches	1 0	1 3
Tomatoes (Canary)	per box	4 0	4 0
do.	per lb.	0 3	0 5
Turnips (white)	per bunch	0 4	4 6
do. (Swed.)	per cwt.	1 0	1 2

12th December, 1911.

A. C.

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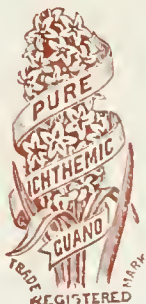
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Plot No.	Manure applied	Quantity per Statute Acre	Yield of Mangels per Statute Acre
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3	Same as on (2), with Nitrate of Soda . . . . .	2 cwt.	45 tons 5 cwt.
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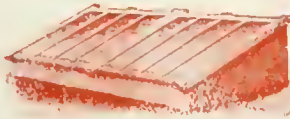
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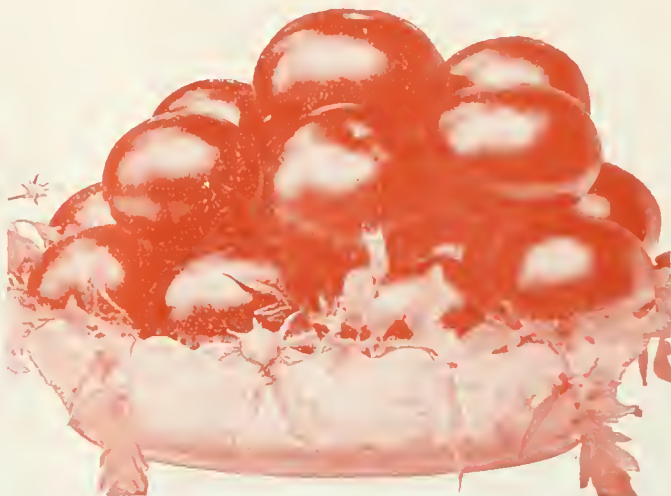
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## Catalogues.

EDMONDSON BROTHERS, of Dublin, send their 1912 Seed Catalogue. It is well arranged and nicely illustrated. The cultural notes for the different kinds of vegetables on pages 26 and 27 should be of use to amateurs—the time to sow, the distance to plant out, and the amount of seed required for different sized beds are all detailed. Collections of seeds for all gardens are quoted at popular prices.

MACKEY'S GARDEN MANUAL for 1912 is a guide to the best vegetables and flowers for Irish gardens. It is exceedingly well compiled and printed, containing many fine illustrations. Throughout the whole list cultural details are given to both flowers and vegetables in a very concise yet clear manner, and success should reward the efforts of those who carefully follow the cultural hints laid down. All the best annuals are described, and the descriptions should be a help to the purchaser.

MESSRS. DRUMMOND'S SEED CATALOGUE maintains the high standard of former issues, and deals with all kinds of flowers and vegetables. Prizes are offered by the firm for various flowers and vegetables to be awarded

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MESSRS. DICKSON, the Royal Seed Warehouses, Chester, send their Catalogue of Garden Seeds for 1912. This large firm is well known and has nurseries over 500 acres in extent. The present catalogue contains a very good selection of the best vegetable and flower seeds, and a good list of sundries at the end. The illustrations are good, and the matter arranged in a very handy form, and runs to 95 pages.

MR. W. E. SANDS, F.R.H.S., Potato Specialist and Merchant, Hillsborough, Co. Down, sends a list of Seed Potatoes. In the new varieties we note Erin's Queen, a new mid-season variety, raised by Mr. Sands, the only Irish potato to receive an award of merit last year after being tested for cropping power and cooking qualities. Mr. Sands has proved that really good Irish seed potatoes will more than equal the Scotch in productiveness.

UNDER the title of "Pleasure and Beauty in Flora Culture," a bulb catalogue comes from Mr. W. H. Paine, manager of the Tully Nurseries, Kildare. It is a very comprehensive list of 199 pages, including all the best hardy bulbs for autumn and spring planting which are grown, and gives a short description to each

one and cultural details for each genus. Among the new Gladioli we note Lady Moore, Sir Frederick Moore, and W. H. Paine, although the price of the two latter is beyond the reach of most purses. The list is of value for reference, and so should be kept.

BLACKMORE & LANGDON, Twerton Hill Nursery, Bath. This firm is well known for the success it has achieved in growing the tuberous-rooted Begonia. The beautiful single-frilled Begonias are becoming very popular, and are quite easy to grow. Beautiful illustrations are given in the catalogue of many of the best-named double kinds showing varieties with good stiff stems, for when the stems are weak the flowers hang downwards, and their beauty is lost. Perpetual Flowering Carnations, also Delphiniums, are largely grown by this firm. Their exhibits at the leading London shows are well known, twenty-seven gold medals having been awarded to the firm. The satisfaction of the firm's customers is shown by numerous testimonials.

MESSRS. WM. POWER'S Catalogue of "Powerful" Seeds for 1912 comes from a firm which has been established in Waterford for more than half a century. They claim that better saved or choicer flower, vegetable, or farm seeds are not to be bought, despite the fact that higher-priced seeds are everywhere obtainable; "Powerful" seeds are raised by specialists who devote their whole time to this work. The catalogue is well illustrated and well printed, and includes nearly all the seeds which are required in a garden. The culture of vegetables is given and the varieties described, while numerous kinds of flowers for sowing outside, and also

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Spencer Mixture, 1 lb. 12/6,  $\frac{1}{2}$ -lb. 6/6,  $\frac{1}{4}$ -lb. 3/6, 1 oz. 1s.

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indoor decoration, receive their share of attention. The catalogue is well worth examination by those who require seeds.

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IN HORTICULTURE FOR 1912**

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B. CAMPFIELD, Esq., writes: "I have grown seeds from many firms  
in the past, but without hesitation say that the results this year from  
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## Flower and Vegetable Seeds from Exhibition Stocks One Quality—"THE BEST PROCURABLE"

### Gold Medal Sweet Peas

THE QUEEN OF GARDEN ANNUALS

Tested Seeds at popular prices, true stocks and 90 per cent.  
germination guaranteed

HIS MAJESTY'S Head Gardener at Balmoral Castle pays the  
following tribute:-

"The Sweet Peas I had from you last season all turned out well;  
they were a fine lot, of good colour and large flowers, with long  
stems, most of them had four and five flowers on every stem."

November 6th, 1911

JOHN M. TROUP.

Our Unrivalled Collection for Exhibition and Garden Display,  
15 varieties, embracing all shades of colour.

Number of seeds stated in brackets.

Flora Norton Spencer (15), Mrs. Hardeastle Sykes, improved  
stock (25), Clara Curtis (25), John Ingman, improved (25), Mrs.  
Routzahn (25), Maud Holmes (12), Masterpiece (15), Asta  
Ohn (25), Nubian (12), Tennant Spencer (25), Improved Heien  
Lewis (20), Mrs. C. W. Breadmore (25), Elsie Herbert (20),  
Hercules (10), Earl Spencer (12), Etta Dyke (25).

The Collection 3 6, including 8 seeds gratis of Mrs. W. J. Unwin,  
the finest striped pea in commerce. Half-sized packets 1 9, or in  
separate packets at 3d., except Hercules 6d. Cultural Notes by  
a leading expert with each order.

#### THE OLD FAVOURITES.

Black Knight, Helen Pierce, Frank Dolby, Miss Willmott, Queen  
Alexandra, King Edward VII., Nora Unwin, Countess Spencer,  
Primrose Spencer, E. J. Castle, Hon. Mrs. Kenyon, Gladys Unwin.

These 12 varieties, 25 seeds each, post free, 11.

Fairbairn's Special Mixture of Spencer Hybrids, including all  
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### ONION SETS. A new departure in Onion Growing.

The Sets, being miniature onions, strong in flavour, resist in a  
remarkable way both GRUB and FLY; in many gardens where  
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a blessing, producing large and handsome onions with ordinary  
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	S. d.	S. d.
Gradus, finest early . . . . .	pint 1 3	quart 2 6
Pilot, splendid heavy cr-pper . . . . .	1 3	2 6
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Postage extra, 4d. per quart, 3d. per pint.

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**GEORGE FAIRBAIRN & SONS**  
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81, 83 and 85 ENGLISH STREET, CARLISLE



## Royal Horticultural Society of Ireland.

At the monthly meeting of the Council held on the 12th ult., the following dates were definitely fixed for the Summer and Autumn Shows, which, by kind permission of Lord Iveagh, will be held in the grounds of his Lordship's residence, Stephen's Green, the Summer or Rose Show being fixed for Thursday, July 11th, and the Autumn Show for Tuesday, August 27th. As previously intimated, the Spring Show will be held in conjunction with the Royal Dublin Society's Spring Cattle and Implement Show on Wednesday, April 17th, and Thursday, April 18th. Schedules and all particulars can be had, post free, on application to the Secretary, 5 Molesworth Street, Dublin.

### RAINFALL AT GLASNEVIN FOR 1911.

RAIN GAUGE.—Diameter of funnel, 8in. ; height of top above ground, 1 foot ; above sea level, 55 feet. Rain or snow fell during the year on 194 days. The total rainfall, 24.92 inches, is 9.65 inches less than the amount registered for 1910. The wettest month was October, 4.10 inches. The driest was January, .79 inches. The greatest fall in 24 hours was 1.16 inches, 29th July. The warmest day was 13th July, 83.9°. At Straffan House, Co. Kildare, 240 feet above sea level, rain fell on 193 days during the year, the total fall being 31.85 inches.

## 'PHAROS' WEED KILLER

ONE APPLICATION PREVENTS THE GROWTH  
OF ALL WEEDS THROUGHOUT THE SEASON

The very concentrated form of the 'Pharos' Weed Killer, 1 part to 60 parts of water being sufficient for dressing 200 to 250 square yards of Paths or Drives, combined with the low figure at which it is sold, makes it absolutely the cheapest in the market.

$\frac{1}{2}$ gallon Drum	.. ..	2/- each
1 "	" "	3/6 "
2 "	" "	6/6 "
3 "	" "	9/6 "
5 "	" "	15/- "
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and in 20 and 40 gallon barrels.

ALL PACKAGES FREE.

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208 Pages

200 Illustrations

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## SWEET ENGLISH SAVED SEED PEAS

Collection A.—Six Splendid Exhibition Varieties. Dobbie's Snoproof Ormiston (12), Isabel Malcolm (12), Ivanhoe (12), Mrs. Harcastle Sykes (12), Mrs. Hugh Dickson (12), Nora Unwin (15). **1s. 3d.**

Collection B.—Twelve Grand Exhibition Varieties.—Clara Curtis (12), Edrom Beauty (12), Elfrida Pearson (12), Elsie Herbert (15), Etta Dyke (12), John Lugman (12), Marie Corelli (15), Masterpiece (12), Mrs. C. W. Bredmore (15), Mrs. Routzahn (15), Nubian (12), Queen of Norway (12). **2s. 6d.**

Collection D.—Consists of the above two. Price **3s. 6d.**

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For fuller descriptions of the varieties mentioned in this list and all other known varieties, we refer our friends to the little book, "ALL ABOUT SWEET PEAS," by Mr. Robert Sydenham, revised and corrected to end of 1911. PRICE 6d.

The seeds in these collections are all carefully hand picked; all small, poor, or doubtful ones are taken out; eighty to ninety per cent. guaranteed to germinate if treated as instructions sent with each collection.

EACH PACKET in Nos. 1 and 2 CONTAINS 50 SELECTED SEEDS. Buyers not wanting any collection complete may select their own varieties from EITHER COLLECTION at prices mentioned, and have 3- worth for each 2 6.

### COLLECTION No. 1—12 useful Grandiflora varieties, 1/3

Dainty, white, with slight pink edge, 2d.; Duke of Westminster, rosy violet, 2d.; Janet Scott, pale pink, 2d.; King Edward VII., rich crimson, 2d.; Lord Nelson, dark blue, 2d.; Mrs. Collier, pale primrose, 2d.; Picotee edge, 2d.; Prince of Wales, rich deep rose, 2d.; Queen of Spain, salmon pink, 2d.; Romolo Piazani, medium blue, 2d.; Rose du Barri, combination of deep carmine, rose and orange, a grand artificial light flower 4d.; Triumph, rosy salmon and blush bicolor, 2d.

### COLLECTION No. 2—12 best Grandiflora varieties, 1/6

Black Knight, rich dark bronzy chocolate, 2d.; Dorothy Eckford, best white self, 2d.; Helen Pierce, pretty marbled blue, 2d.; Joannie Gordon, carmine and buff bicolor, 2d.; Lady Grisel Hamilton, pale lavender, 2d.; Mid Blue (*syn. Zee*), rich blue, 2d.; Miss Willmott, best salmon red, 2d.; Mrs. Walter Wright, rich rosy mauve, 2d.; Prima Donna, pale bluish pink, 2d.; Queen Alexandra, the best crimson scarlet, 2d.; Saint George, rich orange scarlet bicolor, 3d.; Zarina, pale salmon pink, 4d.

Single Packets of any variety in Collections Nos. 1 and 2, at prices mentioned

COLLECTIONS Nos. 1 and 2 WHEN BOUGHT TOGETHER WILL BE 2 6. And 25 seeds each of the four best striped varieties will be added free of charge, viz.:—Jessie Cuthbertson, Mrs. J. Chamberlain (*or Aurora*), Prince Olaf, and Unique. Either of these striped varieties, 1d. per packet.

EACH PACKET in Nos. 3 and 4 CONTAINS 25 SELECTED SEEDS

### COLLECTION No. 3—12 GOOD WAVED VARIETIES, 2/-

America Spencer, bright rosy-scarlet flake, 3d.; Apple Blossom Spencer, rosy pink and blush, 3d.; Black Knight Spencer (*or Othello Spencer*), rich dark maroon, 3d.; Constance Oliver, creamy pink, flushed deep pink, 3d.; Evelyn Hemus, primrose with pink picotee edge, 3d.; Frank Dolby, lavender, 2d.; Gladys Unwin, pink, 2d.; Helen Lewis, orange and rose, 3d.; John Ingman, carmine and rose, 3d.; Nora Unwin, white, 2d.; Paradise Ivory, pale primrose, slightly tinged with pink, 3d.; Scarlet Monarch, bright crimson scarlet, 4d.

### COLLECTION No. 4—12 BEST WAVED VARIETIES, 2/6

Asta Ohn (*or Mrs. Charles Foster*), best lavenders, 3d.; Clara Curtis, primrose, 3d.; Countess Spencer, large pink, 2d.; Earl Spencer, good salmon orange, 4d.; Elsie Herbert, white, with pink picotee edge, 4d.; Etta Dyke, finest white, 2d.; Helen Cressvener, orange and rose, 4d.; Maud Holmes, rich sunproof crimson, 6d.; Mrs. C. W. Breadmore, pale primrose, with pink picotee edge, 3d.; Mrs. Reutzahn Spencer (*or Mrs. Henry Bell*), pale pink on cream, 3d.; Mrs. Hardcastle Sykes, blush pink, 3d.; Tennant Spencer (*or The Marquis*), large rosy mauves, 3d.

COLLECTIONS Nos. 3 and 4 MAY BE HAD TOGETHER FOR 4 -, and 25 seeds each of Marie Corelli and Mrs. A. Ireland, free of charge.

COLLECTIONS Nos. 2 and 4 MAY BE HAD TOGETHER FOR 3 6, and 50 seeds of the choicest Spencer Seedlings free of charge.

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Which, with the 6 added varieties, and 50 seedlings, will be the best collection ever offered for the money.

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In conjunction with MR. ROBERT HOLMES, of Norwich, we are putting the following splendid novelties on the market in 1912. All have come perfectly true in 1911, but are sold without guarantee the first year.

Barbara, a large salmon-orange self (6 seeds), 2- (*not sold apart from the collection*); Charles Foster, pale creamy pink, flushed pale mauve (10 seeds), 9d.; Edith Taylor, a distinct rosy cerise, or salmon-rose self (6 seeds), 16 (*not sold apart from the collection*); Lady Evelyn Eyre, large pale pink, flushed salmon, or a large improved Mrs. Hardcastle Sykes (10 seeds), 6d.; Millie Maslin Spencer, large magenta-crimson (10 seeds), 6d.; Mrs. T. W. Warren, a bright Spencer form of Helen Pierce (10 seeds), 6d.; Orton, a dark glowing reddish crimson (10 seeds), 6d.; Scarlet Emperor, the largest and brightest scarlet (6 seeds), 13; Scarlet Empress, a large improved Scarlet Monarch (10 seeds), 6d.; Thomas Stevenson, the finest of the orange-scarlet self (15 seeds), 6d.

SPECIAL PRICE FOR THIS COLLECTION OF 10 VARIETIES, 6 -

In addition to the above we offer

Arthur Green, rich claret, or plum-coloured self (25 seeds), 4d.; Elfrida Pearson, fine bluish pink, tinged salmon (25 seeds), 6d.; Ethel Roosevelt, pale rose flake on cream ground (25 seeds), 4d.; Florence Nightingale, one of the best lavenders (25 seeds), 3d.; Mrs. Townsend, a bluish white, with blue picotee edge (25 seeds), 3d.; Nubian, finest dark maroon self (15 seeds), 6d.; Pearl Grey Spencer, a pretty dove grey, shaded rose (12 seeds), 6d.; Rainbow Spencer, a new rose flake (15 seeds), 6d.

***Special Price for this complete collection of 18 New Varieties, 8 -***

And 50 seeds of choicest Spencer Seedlings free of charge

SPECIAL PRIZES will be offered at about 100 Shows in 1912, varying from £2 to £50 at a Show

**SALTAIRE will be the £50 Show**

Full particulars on application

## Dublin Wholesale Markets.

WITH the advent of the New Year the variety of flowers and vegetables in the markets is considerably increased. Looking at the large quantities of Narcissi and Tulips, in company with Spiræas and Roman Hyacinths, which now adorn the markets, we are reminded that winter's reign is drawing to a close and that we are on the threshold of spring.

As yet practically all the Tulips and Narcissi which are in the markets are grown in the Scilly Isles and in the south of England, where the climate is favourable to their early production. Specially constructed houses, covering large areas, are devoted to their culture in the Scilly Isles, and from thence they are transmitted to Covent Garden. It is from this centre that they are forwarded to the Dublin markets. Pots of Roman Hyacinths and Spiræas are plentiful, but in the case of the latter undue exposure to the cold air had caused them to lose much of their original freshness.

Chrysanthemums are now almost finished for this season, only a few lots of white and yellow sorts being sold on this date, and these were readily disposed of. At a time when foliage is so scarce, nicely-coloured twigs of Berberis Aquifolium or Mahonia do not lack buyers.

The first supplies of rhubarb are again welcomed, this vegetable being very popular at a time when fruit begins to get scarcer and dearer. Most of the rhubarb now on sale is forwarded from cross-Channel sources. It is tied in small bundles, each containing three sticks of rhubarb, and afterwards carefully packed in large crates.

Supplies of home-grown apples are now diminished, yet, in spite of this, prices remain much the same. The reason may be that at present the markets are stocked with American apples in variety, and the consequent competition cannot but lower the price of Irish fruit. While the home-grown apples were faultless in many respects it must be admitted that a great number of them had a serious blemish—they were spotted. This disease does not affect the eating qualities of the apples, but by detracting from their appearance it becomes a serious drawback when the fruit has to be sold. Small, clean, select lots, neatly packed in shallow boxes, containing from a dozen to two dozen fruits, are selling extremely well.

Coming to the vegetable section we find that high prices are being paid for cabbages. York cabbage, on the whole, is of poor quality, but Savoy's are of a high standard and command quite as good a price as the more popular Yorks. The recent mild, open weather has been specially favourable to Brussels sprouts, which are plentiful and of good quality. The scarcity of

cabbage creates a great run on this vegetable, so that good prices are being obtained. Broccoli and celery are two other crops which have similarly benefited; celery on some occasions was rather too plentiful and consequently had to be sold cheaply, but broccoli is maintaining its high value. Other vegetables show little variation from last month, with the exception of sea-kale, which is now arriving in considerable quantities from home sources.

The following were the prices:—

		From		To	
		s.	d.	s.	d.
FRUIT.					
Apples—Bramley's Seedling	per barrel	13	0	18	0
Newton Wonder,	per 5 doz.	4	2	4	9
Selected,	per doz.	1	0	1	6
Mixed	per float	2	6	3	0
American	per barrel	20	0	26	0
Grapes—Gros Colman and Micante					
	per lb.	1	3	1	9
Pears—	per box of 3½ dozen	2	6	2	9
FLOWERS.					
Arum Lilies	per doz. blooms.	2	0	2	6
Berberis and Mahonia	per bunch	0	2	0	3
Chrysanthemums	do.	1	4	1	8
Lilium Harrisii	per 12 blooms	2	0	2	6
Lily of the Valley	per bunch	0	9	1	0
Narcissus	do.	1	0	1	4
Roman Hyacinths	per 12 spikes	0	3	0	4
Tulips	per bunch of 36	1	3	1	6
Violets	per doz. bunches	0	10	1	7
VEGETABLES.					
Artichokes—Jerusalem	per float	1	3	1	6
Beetroot	per doz.	0	9	1	4
Broccoli	per flasket	2	6	4	6
Brussels Sprouts	per float	1	0	1	6
Cabbages (York)	per load	10	0	17	6
do. (Savoy)	do.	9	0	16	0
Celery	per bunch	1	0	2	10
Carrots	per doz. bundles	0	6	0	8
Leeks	per doz.	0	3	0	4
Lettuce	per tray	0	6	0	8
Mint	per doz. bunches	3	0	4	0
Onions	per bag	6	0	7	6
Parsley	per float	0	3	0	8
Parsnips	per doz.	0	4	0	6
Rhubarb	per doz. bundles	0	10	1	6
Sage	per bunch	0	4	0	8
Spinach	per tray	0	6	0	9
Seakale	per bunch	0	8	1	0
Turnips (white)	per bunch	0	6	0	8
do. (Swede)	per cwt.	0	10	1	2
Thyme	per doz. bunches	1	6	2	0

29th January, 1912.

A. C.

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"THE BEST IN THE WORLD"

There is no Fertilizer that gives such good all round results as CANARY GUANO. It is used by the leading Amateur and Trade Growers all over the Country. A post card to the Manufacturers will ensure full particulars. Sold by practically all Seedsmen, in Tins 6d., 1/- and 2/6; and in Bags, 14 lb., 3/6; 28 lb., 6/-; 56 lb., 11/-; 1 cwt., 20/- each

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6 to 8 inches high. Ready for Fruiting Quarters. Crown in Steam-sterilised soil. Very carefully packed and protected. Price £3 per 1,000, Cash with order, carriage paid. Per 100, 7 65 plants, 5/-; 50 plants, 4/-; 25 plants, 3/-; 12 plants, 2/-; Carter's Sunrise, Fackswold Favourite, Lawrenson's III., Stirling Castle, Winter Beauty, Beauty of Wales, &c.

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Royal Horticultural Hall, July 9 and 10, 1912

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**ALPINE OR ROCK PLANTS**

NOW READY. . . . Post Free on Application

**WELLS' BOOK:**

"The Culture of the Chrysanthemum"  
POST FREE, 1/6

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Polished Plate for Shop Windows.

Horticultural Glass at Lowest Rates

## DEATH TO THE WEEDS! HOYTE'S WEED KILLER.

Strongly Recommended for the Destruction of Weeds, &c.

Price, 2s. per gallon; 5 gallons, 1s. 6d. per gallon; 10 gallons, 1s. 3d. per gallon; Original 40-gallon casks, 1s. per gallon.

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EXPERIMENT CARRIED OUT ON FENAGH  
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Plot No.	Manure applied	Quantity per Statute Acre	Yield of Mangels per Statute Acre
1	Farmyard Manure . . . . .	27 tons	29 tons 5 cwt.
2	Farmyard Manure . . . . . Basic Slag . . . . . Kainit . . . . .	27 tons ) 7 cwt. 3 cwt.)	37 tons 5 cwt.
3	Same as on (2), with Nitrate of Soda . . . . .	2 cwt.	45 tons 5 cwt.
4	Same as on (2), with Nitrate of Soda . . . . .	3 cwt.	49 tons 0 cwt.

Slag and Kainit, costing 31/-, added nearly 8  
Tons of Roots per acre, worth . . . . . £4

2 CWT. NITRATE OF SODA added to above, at a cost  
of 21/- per acre, further increased the crop  
by 8 TONS, value . . . . . £4

3 CWT. NITRATE OF SODA, costing 31.6 per acre,  
in addition to dung, slag and Kainit, in-  
creased the crop by 12 TONS, value . . . . . £6

The artificial manures thus added 19 tons 15 cwt. to  
the weight of roots produced by dung alone, Basic  
Slag and Kainit adding 8 tons, at a cost of 4/- per  
ton of roots, 3 CWT. NITRATE OF SODA making a  
further increase of 12 TONS at a cost of 31.6, only,  
or about 2/7 per Ton of Roots.

## NITRATE of SODA

is the quickest-acting of all Nitrogenous  
Fertilisers, and practically the cheapest

Full particulars and Pamphlets will be sent free on  
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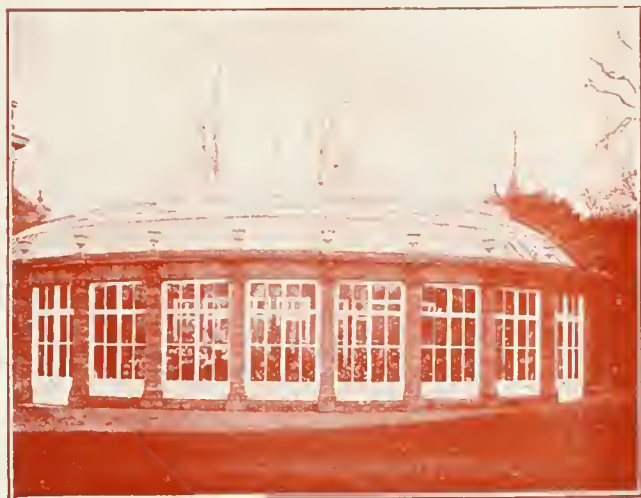
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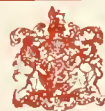
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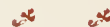
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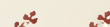
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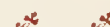
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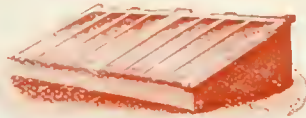
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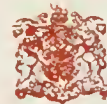
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**T**HIS month it is necessary to look over one's Carnation beds to replace any layers which have failed during the winter, and to make a note of those varieties which have best stood the wintry weather, so that they chiefly may be propagated when the layering season comes round. Unfortunately many of the choice Carnations seen at the principal shows throughout the United Kingdom—correctly described *technically* as "border" varieties—are grown under glass, and comparatively few of these will succeed in the open, when really treated as border Carnations. As a consequence many Carnation lovers are disappointed, and some cease trying to grow the flower they like so much. This is a great pity, for there are numerous sorts of thoroughly hardy constitution.

Others give up the Carnation from non-success, which is due to lack of drainage, whereas in fact Carnations can be grown in any garden if the requisite simple preparations be made. Where the soil is stiff or wet, abundance of gritty material—coarse sand, mortar rubbish, or the like—should be used, and the ground trenched two spades deep, raising the beds and giving them a good slope towards the sun. Only old manure should be used, and this about one-spade deep below the surface.

The premier Irish Carnation Firm have won prizes almost everywhere for their real border Carnations, their stock being grown throughout the year quite unprotected, planted out in their flowering quarters. The blooms staged by Messrs. Watson at horticultural shows are all cut from the open, and a special Carnation booklet with full descriptions of numerous capital doers may be had on application to Messrs Watson at Clontarf Nurseries, Dublin. Sturdy young plants of their gold medal varieties can be had now, ready for planting out, to bloom this year.

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Send for list of varieties offered by  
**CAPT. BARRETT-HAMILTON**  
The Largest Grower in the South of Ireland

OTHER SPECIALITIES—  
CABBAGE PLANTS . . . . .  
DAFFODIL and NARCISSI BULBS

KILMANOCK, CAMPILE, via WATERFORD

## The "Sweet Pea Annual."

**T**HE "Sweet Pea Annual" for 1912 is now ready. It is the official organ of the National Sweet Pea Society, and, like the society itself, it grows bigger every year, the present issue runs into 150 pages, and it is very fully illustrated. The membership of the society is now over 1,200, and, in addition, there are 125 affiliated societies with a membership of many thousands, so mightily has the cultivation of sweet peas increased and prevailed. The "Annual" reviews the past year, so memorable for its many days of bright sunshine, which rendered the successful cultivation of sweet peas so difficult, especially in the south and east of England and on light soils everywhere. In Ireland, Scotland and the north of England the conditions were more favourable, resulting in the magnificent successes of Irish growers at the London Show, and of Scottish growers in the competition for the huge prizes offered by the *Daily Mail*. The report of the "Third Sweet Pea Conference" will be full of interest to all growers, especially the paper read by Mr. Chittenden, on the "Diseases of Sweet Peas," and the discussion which

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100 Herbaceous, named . . . .	for 30/-
50 " " " " " "	15/-
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12 " " " " " "	5/-

Send your enquiries, quotation by return.

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Amateur growers of rare and choice alpine and herbaceous perennials, should get

## THOMPSON & MORGAN'S

### 57th ANNUAL LIST

which describes about 3,000 distinct species and varieties of Flower Seeds (including an up-to-date Collection of Sweet Peas), also a fine assortment of the choicest Vegetable Seeds. Their Catalogue, not being illustrated, does not attract the superficial lover of flowers, but it is much appreciated by the scientific and more advanced class of amateurs, and, moreover, the ridiculously high prices of some firms, are avoided, and everything is offered at the lowest possible figure consistent with highest quality. *Post Free on Application*

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## SAFE, SURE & LASTING

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### VINE, PLANT AND VEGETABLE MANURE

1 cwt. 20/-; ½ cwt. 10/-; ¼ cwt. 6/-; 14 lbs. 3/6; 7 lbs. 2/6; Tins, 2/6, 1/- and 6d. Carriage paid on 1 cwt. anywhere

### SPECIAL TOP-DRESSING MANURE

½ cwt. 20/-; ¼ cwt. 11/-; 14 lbs. 6/-; 7 lbs. 3/6; Tins, 1/- Carriage paid on ½ cwt. anywhere.

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No. 2	size Tin— $\frac{1}{2}$ pint	"	20,000	...	6
No. 3	size Bot.—6 oz.	"	12,000	...	8
No. 4	size Bot.—4 oz.	"	8,000	...	3
No. 4 $\frac{1}{2}$	size Bot.—2 oz., new size	"	4,000	...	1
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28 lbs. (to dress 100 square yds.) 6 6.  
 $\frac{1}{2}$  cwt. 11/-, 1 cwt. keg 21/-, and in decorated tins

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FOR FRUIT TREES

A perfect destroyer of Woolly Aphis, Codlin, Maggot, Scales, Red Spiders and their Eggs, Apple Suckers, Lichen Moss, and Decayed Bark. Apply in Winter when trees are dormant

PRICES  
 1 gallon to make 20 gallons ... 5/- per gallon  
 5 " " 100 " ... 23/- per drum

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## Winter Dressing

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For the Destruction of all Insect Germ and Pests that shelter in the Bark during the Winter Months. This Preparation has been most successfully tested under special supervision by practical Growers, and is highly recommended by all Fruit Growers.

PRICES: Pint, 1/-; Quart, 2/-; 1 Gallon, 3 6; 1 Gallon, 6 - 3 Gallons, 17 -; 5 Gallons, 27 6; 10 Gallons, 54 -

Important to Gardeners and Fruit Growers

# "NIQUAS"

(Registered).

The most successful Non-poisonous Insecticide of the day.

ITS ADVANTAGES ARE—

Certain death to all Insect Pests.

No possible injury to the most delicate Plant, Flower or Foliage.

It is by far the cheapest Insecticide known. One pint makes ten to twelve gallons for Thrip, Black and Green Fly, &c., whilst RED SPIDER, Mealy Bug, and Scale can be thoroughly eradicated by using "NIQUAS," double or three times the strength required for Fly. Recently it has been used on a large scale by growers of vegetables, with the best success.

PRICES—1 pint, 1/-; Pint, 1 6; Quart, 2 6; Half-Gallon, 4/-; Gallon, 7 6; Kegs, each Five Gallons, 25/-; Ten Gallons, 40 -

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FOR FUMIGATING IN GREENHOUSES

INTRODUCED 1885.

This well-known invention for the entire eradication of all pests infesting vegetation under glass is now manufactured in a more simple and reliable form. The small candle, which will be found packed with each cone, has only to be lighted, and placed on the ground in the centre of the Cone Frame, to produce immediate results. Nothing on the market can equal it for efficiency and cheapness.

Cone No. 3, for a well-secured house of cubic 2,000 to 2,500 feet, price 1/- each. Cone No. 2, for a well-secured house of cubic 1,000 to 1,200 feet, price, 8d. each. Cone No. 1, for frames cubic 100 to 600 feet, price 6d. each. Full directions accompany each Cone.

Also makers of the following: Tobacco Powder (duty free), Tobacco Juice (duty free), Nicotine Soap, Tobacco Slug Powder (duty free), "Surpazol" Fumigating Liquid, Ewing's Mildew Composition, Fowlers' Mealy Bug Eradicator, Corry's Liquid Extract of Quassia, Fowlers' Insecticide, Scott's Wasp Destroyer, Summer Cloud Shading, Standon's Manure, Fowlers' Lawn Sand, Zinc Labels, Zinc Ink, Verbena Pins, Layer Pegs, Flower Cement, &c., &c.

All Horticultural Sundries Supplied

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followed. The investigations into the causes of and remedies for, the dread "streak disease" are being diligently followed up, and it is hoped that during the ensuing season this trouble, so prevalent in the past, will be successfully grappled with. Among other contents of the "Annual" will be found "Life on a Californian Sweet Pea Ranch," by Frank G. Cuthbertson; "Sweet Peas in the Lake District," by F. J. Harrison; "The Outings of the Society" at Wisbech and at the Sweet Pea Trial grounds at Guildford; the usual Report of the Floral Committee, and the Audit of the Varieties at the London Show. We notice that at the next annual Show, which is to be held at the Royal Horticultural Hall, London, on 9th and 10th July next, in addition to the prizes which are open to all members, *Four Special Prizes* are offered to *Members Resident in Ireland* for nine bunches, distinct, the first prize being a very chaste Silver Vase, value three guineas, presented by Mr. Robert Bolton, of Carnforth. All growers of sweet peas should join a society like this, which has done so much for the development of what is now the most popular of all annuals. The subscription, as seen in our advertising pages, is only 5s., including a free copy of the "Annual," no introduction being necessary. Mr. C. H. Curtis, the Hon. Sec., Adelaide Road, Brentford, Middlesex, will welcome all new members.

## Correspondence.

A correspondent writes: In answer to R. M. Pollock's question, *re* the uncertainty of Lenten Roses being suitable as cut flowers for indoor decoration, may I give my experience of them? I experimented with these flowers, trying every device I could think of to prevent them drooping—putting salt in the water, splitting, scraping, peeling, burning and knotching the stems, and many other forms of torture, some of which were duly resented by the flowers dying at once. I

have now a bowl of these flowers which have been in water nearly two weeks and are still a thing of beauty, especially at this time of year, when flowers are scarce and precious to those whose purses are limited. They require a little care, but not more than their dainty beauty deserves. They were treated in the following manner:—Before being placed in water the stem was cut up the centre, an inch at least, and if long enough, two inches; the water used was warm (not only lukewarm) and, as much as the arrangement of the flowers permitted, their stems were deep in the water. If any flowers drooped after this treatment, as some certainly did even after three or four days, they had a good half inch cut off and the stems split still more and plunged right up to the blossoms in warmer water. In every case they revived in twelve hours or less, and could be replaced in the vases. Every second day they were given fresh, warm water and had the stems snipped, and, if necessary, re-split. All the larger buds opened under this treatment. The red and pink flowers certainly lasted longest.—G. B. M.

**BULBS** ("E. J. M."). Tulips and Narcissi cannot be forced two years in succession with any degree of success. If you desire to keep the bulbs allow them to ripen off the foliage naturally in the pots, and then plant the bulbs outside in autumn. They should give you a few flowers the following spring.

## Royal International Horticultural Exhibition.

As already announced in these columns, this great show will be opened in London by His Majesty the King on 22nd May. The members of the Royal Horticultural Society of Ireland are presenting a splendid cup, to be called the "Irish Cup," for competition in Class 252 for group of hardy plants. This cup is now on view in Messrs. West's window, College Green.

# SWEET PEAS

## Edmondson's Eblana Collections

25 Varieties, 40 seeds each—1,000 seeds for 1s. 6d.

25 Varieties, 80 seeds each—2,000 seeds for 2s. 6d.

The "Minor Eblana" Collection, 12 choice sorts, 1s.

The "Novelties" Collection ———— 12 novelties, 5s.

Eblana Mixture, 1 qt. 5s., 1 pt. 2/6,  $\frac{1}{2}$ -pt. 1/6, 1 oz. 3d.

Giant-flowered Mixture, 1 lb. 5s.,  $\frac{1}{2}$ -lb. 2/6, 1 oz. 6d.

Spencer Mixture, 1 lb. 12/6,  $\frac{1}{2}$ -lb. 6/6,  $\frac{1}{4}$ -lb. 3/6, 1 oz. 1s.

# EDMONDSON BROTHERS

## SEEDSMEN

### 10 DAME STREET—DUBLIN

# Robinsons' Guaranteed Gardenalities

are absolutely necessary for your plants, whether with or without them you will be seriously handicapped. You must foster and protect your plants, or they will not reach maturity, fulness and beauty. Give them the utmost encouragement. Let the soil be prepared with The World's Standard Fertiliser—**CARMONA FERTILISERS**.

**"CARMONA" FERTILISERS** are prepared in many varieties, suitable for all needs, so that every want can be supplied. Sweet Pea growers reap a rich reward if they use the "Carmona" Sweet Pea Fertilisers. Vigour of plants, beauty of flower is then assured. "Carmona" Fertilisers are put up in quantities to suit everyone's needs.

Prices—1 cwt., 20/-; 2 cwt., 12/6; 28 lbs., 7/6; 14 lbs., 4/6; 7 lbs., 2/6; 1- and 6d. Tins.  
(Or ask a dealer or Agent, or write direct.)

## ROBINSON'S GRAND £350 SHOW

This will be held at the Botanical Gardens, Edgbaston, Birmingham, on Aug. 27th and 28th this year, and the sum of £350 will be given away in cash prizes. Also many Championship Medals. You should enter for this. Someone must win the prizes, and why not you? Write to Robinsons, asking for the Show Schedules. Entries are free to every purchaser of "Carmona" Fertilisers, for in each packet is an entry "free" coupon.

## CLIFT'S FLUID INSECTICIDE

IS YOUR GARDEN INFESTED WITH INSECTS? Enteric results are obtainable, if the insects have their own way. Annihilate them in the most systematic, scientific, and sure manner by using **CLIFT'S FLUID INSECTICIDE**, the never-failing destroyer of all injurious and deadly insect pests. Clift's Fluid Insecticide is superior to all others, and has absolutely superseded all rivals. Prepared in handy quantities at the following prices:

40 gallons at 4/6 per gallon; 20 gallons at 5/- per gallon; 10 gallons at 5/3 per gallon;  
5 gallons at 5/6 per gallon; 1 gallon at 6s; 1/2 gallon 3/6; 1 pint 1/-.

## TWO MORE GOOD HINTS

The two following Gardenalities are the best of their kind: 1. "Eradicweed" guaranteed cent. per cent. Weed Killer. 2. "Velvet" Lawn Sand.

## FREE

You will also find much valuable garden advice contained in "Robinson's Guaranteed Gardenalities" booklet (24 pages), and "Robinson's Garden Enemies" booklet (32 pages). These are sent post free to any address upon application. Also Show Schedules included if desired.

NOTE THE ADDRESS...

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## 'EUREKA' WEED KILLER.

SAVES WEARY WEEDING.

50 gallons of mixed solution will kill all weeds on 200 square yards of paths, &c.

### POWDER.

1/2 tin for 12 galls. solution	Free Tins
10 " " 25 " " "	add
6 " " 100 " " "	Cases.

### LIQUID. 1-50.

1 gallon	- 2/-	- drum free
1 " "	- 3/6	- " 9d. extra
2 " "	- 6/6	- " 1/6 "
5 " "	- 14/-	- " 2/6 "
10 " "	- 25/6	- cask 5/- "



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## SLUGS!

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**"SANITAS" POWDER** will rid your Garden of SLUGS

Write for Pamphlet and Free Sample, with full instructions  
6d. & 1s. tins, and 12s. 6d. per cwt.

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EXTERMINATED BY

**"ARNOLINE" CULTURE**  
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A NEW SCIENTIFIC DISCOVERY

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**Richard Sankey & Son, Ltd.**  
Bulwell Potteries, NOTTINGHAM

# IRISH GARDENING.—Calendar of Cultural Operations—Vegetables

Name of Vegetable	When to Sow Seed	When to Plant Out	Distance Apart	Ready for Table	Names of Good Varieties
Beet	April and May	Thin when ready...	1½ feet lines, 8 in. plants	Aug. to May..	Dell's Crimson and Sutton's Blood Red for "Main Crop" and Globe Beet for "early use"
Borecole or Kale...	End of April	When ready	2 feet × 1½ feet	Feb. and May.	Tall German Borecole and Asparagus Kale
Broccoli	During April	When ready	2 feet × 2 feet	Nov. to June..	Self-protecting Winter Mammoth, Superb Early White (Sutton's), Mont Blanc (Drummond's), Lexington and Model, in order of cutting
Brussels Sprouts...	March	When ready	2 feet × 2½ feet	Nov. to April	Multiple, Wroxtton, and Exhibition Sprouts
Carrot	During April	Thin when ready...	2 feet × 8 in.	Aug. to June	Early Gem, St. Valery and New Red Intermediate
Cauliflower, Early	On hot-bed, early March	Middle of April	2 feet × 2 feet	July and Aug.	Early Snowball and Dwarf Erfurt
" Main Crop	April	When ready	2 feet × 2½ feet	Aug. to Nov.	Magnum Bonum, Early Giant, and Veitch's Autumn Giant
Cabbage, Spring...	Early July	End of September	2 feet × 1½ feet	April and May	Excelsior (Dickson's), Ellam's, Early, Flower of Spring and Early Offenham
" Summer	April and May	When ready	2 feet × 1¾ feet	June to Dec.	Nonpareil, Main Crop (Sutton's), Reliance and Mein's No. 1
Celery, Early	Hot-bed, end of Feb.	May	3½ feet × 1 foot	Sept. to Nov.	Early Gem and Clayworth Prize Pink
" Main Crop	" March	June	4 feet × 1 foot	Nov. to April	Solid White and Standardbearer
Leek	End of March	June and early July	14 feet × 9 inches	Nov. to May	Lyon & Dobbie's International
Lettuce, Summer	March to end of July	Thin when ready	14 feet × 9 inches	June to Nov.	Pearl, All Year Round, Continuity and Iceberg
" Winter	Middle August	Oct. and March	1 foot × 9 inches	April and May	Hardy Green, Hammersmith, and Winter Pearl
Onions, large Bulbs	Hot-bed, Feb.	End of April	14 feet × 9 inches	Aug. to May	Alisa Craig and Cranston's Excelsior
" Spring	March	Thin when ready...	1 foot × 6 inches	Sept. to May	Bedfordshire Champion and James' Keeping
" Tripoli	End of July and August	Oct and Feb.	1 foot × 6 inches	May to Sept.	Giant Lemon Rocca and Red Flat Italian
" Pickling	End of April	Thin when ready	3 inches each way	Sept.	White Queen and Silver Skin
Parship	February and March	Thin when ready...	2 feet × 1 foot	Oct. to May	Student and Tender and True
Potato, Early	Feb. & boxed seed Mar.	—	2 feet × 14 feet	End of June	Ninetyfold and British Queen
" Main Crop	March and April	—	2 feet × 1½ feet	Aug. to June	Factor, Langworthy, Irish Queen, and Colleen
Savoy	April	June	2 feet × 2 feet	Nov. to Feb.	Drumhead and Model
Beans, Scarlet	First week May	—	Single lines, seed 1 foot apart	Aug. to Nov.	Best of All and Ne Plus Ultra
" Runners	February to May	—	Double lines, 9 inches apart	July to Sept.	Exhibition Long Pod for Early, and Taylor Broad Windsor for late use
" French	End of April to end of June	—	Double lines, 9 inches apart	July to Oct.	Canadian Wonder and climbing Tender and True
Peas, Early	February	—	Sow in shallow drills	June and July	Multiple, Gradus, Bountiful, and William I.
" Mid-Season	March to May	—	Sow thinly in shallow drills	July to Sept.	Alderman, Eureka, Senator, Daisy, a dwarf pea
" Late	May	—	Sow thinly in shallow drills	Sept. and Oct.	Gladstone and Autocrat
Turnips, Summer	March to June	—	14 feet × 6 inches	June to Dec.	Early Milan and Snowball
" Winter	July and August	—	14 feet × 6 inches	Dec. to April	Orange Jelly and Blackstone
Spinach	March to August	—	14 feet × 6 inches	All year round	Victoria Round; quite hardy
Herbs	April	—	14 feet × 1 foot	—	Parsley, Mint, Thyme, and Sage are the most useful

This Calendar has been prepared by Mr. William

Tyndall, and it is intended to be torn off and hung up for consultation during the year.



# SUTTON'S COLLECTIONS OF VEGETABLE SEEDS

THE FINEST STRAINS OF SEED

Conspicuously successful at leading exhibitions in Great Britain and Ireland



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And upwards, post free

Full particulars of all the best Vegetable and Flower Seeds, Seed Potatoes, &c., will be found in . . .

SUTTON'S AMATEUR'S GUIDE IN HORTICULTURE FOR 1912

**SUTTON & SONS**

The King's Seedsmen

—READING—

B. CAMPFIELD, Esq., writes: "I have grown seeds from many firms in the past, but without hesitation say that the results this year from your seeds have been 50% better than any I have hitherto obtained"

**Eckford's**  
GIANT SWEET PEAS



Another Record Sweet Pea Year ! !

**ECKFORD'S**

**GREAT £1,000 COMPETITION**

£250 for Ladies or Gentlemen keeping one or more Gardeners  
£250 for Professional Gardeners. £250 for Amateurs. £125 for Cottagers. £125 for Boys and Girls under 16

There are two reasons, both equally good, for this competition, as you will admit. First and foremost, Eckfords, as the premier Sweet Pea Specialists of the world, wish to mark their tangible appreciation of the public preference for their unsurpassed Sweet Pea seeds—a preference based upon the unexcelled standard they have always maintained.

To grow from Eckford's Seeds spells success—there is nothing to be doubtful or dubious about, either as regards the magnificent quality of the flowers or on the score of their hardiness.

Eckfords have made the culture of the Sweet Pea the aim and object of their existence, and as all know and appreciate—Eckford's Sweet Peas are unrivalled in the bewitching splendour of their hue and fragrance.

Again, Eckfords desire to promote even more than before the cult of the Sweet Pea. They wish every one to become experts in the art of growing Sweet Peas to perfection, and they imagine no better way than the medium of a friendly competition—open to all. It matters not whether you grow extensively or on a limited scale—for Eckfords have graded the contest in classes. The professional grower is restricted to his brethren—the amateur who has the aid of help is in a division by himself—those with modest gardens are also catered for, whilst even children have a section to themselves.

The competition is open to all. Simply send now to Wem for free particulars, and enter at once.

**SPECIAL COLLECTIONS FOR 1912**

**Exhibitor's (C) Collection**

30 select varieties, fine for exhibition, 20 seeds of each 10s., post free, cash with order

**Exhibitor's (D) Collection**

12 Giant Waved varieties, new and up-to-date, fine for exhibition, 10 seeds of each, 2s. 9d., post free, cash with order

**Exhibitor's (E) Collection**

24 Giant Waved varieties, new and up-to-date, fine for exhibition, 10 seeds of each, 6s. 6d., post free, cash with order

**Villa (A) Collection**

50 very choice varieties suitable for villa garden, excellent giant flowered sorts, most suitable for cutting and Exhibition, 25 seeds of each, 10s., post free, cash with order

**Villa (B) Collection**

24 splendid varieties, suitable for exhibition, 50 seeds of each, 6s. 6d., post free, cash with order

**Half-Villa (B) Collection**

24 splendid varieties, suitable for exhibition, 25 seeds of each, 3s., post free, cash with order

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12 splendid varieties, suitable for exhibition, 60 seeds of each, 2s. 9d., post free, cash with order

**Villa (D) Collection**

6 splendid varieties suitable for cutting, 50 seeds of each, 1s. 6d., post free, cash with order

**Villa (E) Collection**

12 splendid varieties, suitable for exhibition, 25 seeds of each, 1s. 6d., post free, cash with order

**FREE**

A specially written booklet on Sweet Pea Growing given with every order. Send a postcard to-day for large illustrated and coloured Catalogue. It gives full particulars of all novelties in Sweet Peas for 1912, also complete particulars of the £1,000 offered in Prizes for growers of Eckford's Sweet Peas, and contains full list of all Flower and Vegetable Seeds.

**HENRY ECKFORD, Sweet Pea Specialist (Dept. 269), WEM, SHROPSHIRE**

Gardeners who desire to avail themselves of the specially reduced entrance fees should write to their seed merchants for an application form, or to the Hon. Sec. for Ireland, Sir F. W. Moore, Royal Botanic Gardens, Glasnevin.

Particulars of the liberal reductions the International Exhibition authorities allow in the case of professional gardeners who obtain their tickets beforehand have already been published. We are now asked by the Hon. Press Secretary (Mr. R. Hooper Pearson) to state that application forms for these cheap tickets have been sent to Sir F. W. Moore, Royal Botanic Gardens, Glasnevin. As the tickets are available for the use of *bona fide* gardeners only, full particulars must be furnished to the Secretary, and the tickets obtained before the opening date of the Exhibition. All who have the requisite qualifications should apply at once to the Secretary; the Secretary will then send a form, which the applicant must fill up and return to him; any delay may lead to disappointment.

Since the issue of the last published list of presentation cups and other special prizes, the directors have been informed through Mr. James Whitton, one of the secretaries for Scotland, that the City of Glasgow will offer a silver cup for the best exhibit of hardy trees and shrubs suitable for planting in congested areas. The question of the suitability of various trees for cultivation in densely-populated towns possesses great interest for every park superintendent, and for all who are engaged in public gardening.

## Royal Horticultural Society of Ireland.

A meeting of the council was held at the society's offices, 5 Molesworth Street, Dublin, on the 7th ult. After the transaction of minor business, Sir Frederick

Moore broached the matter of the Society identifying itself with the Royal International Horticultural Exhibition, to be held in London in May, by the presentation of a cup, to be called the Irish Cup. This was unanimously approved, Sir Frederick Moore being authorised to invite subscriptions from members for the purpose. The new annual report with schedules of shows for 1912, which has been posted to members, can now be had on application to the secretary. In view of the spring show to be held at Ballsbridge, April 17th and 18th, in conjunction with the Royal Dublin Society's spring cattle and implement show, it is now a particularly opportune time for the accession of new members, who will have the privilege of access to both shows on the above dates. The secretary will be pleased to forward particulars of membership on application.

## Books and Catalogues.

THE "Hardy Plant Year Book," published by the Horticultural Printing Co., Bunley. Post free, 1s. 3d. This is the first annual publication of the National Hardy Plant Society. This society is constituted for the encouragement, the extension, and the improvement of hardy plant culture, whether for the garden, for decorative purposes, or for exhibition. The first exhibition under the auspices of this organisation will be held on June 10th, 1912, in the Royal Horticultural Hall, Vincent Square, London. The Society has accepted an invitation to send a deputation to the Dublin Spring Show to award certificates, a cup, and medals. The Annual includes a number of interesting articles by the members, and a descriptive list of the new hardy plants for last year.

## Blackmore & Langdon's BEGONIAS

AWARDED 27 GOLD MEDALS

CATALOGUE FREE

CATALOGUE FREE

**Begonia Seed** should be sown in the early months of the year to enable the seedlings to give a glorious display of flowers in out-door beds during the late summer and autumn, and that the best may be selected for pot culture next season.

*Extracts from recent unsolicited Testimonials*

"Seeds last year were superb."

"I must say your seed is excellent; results extraordinary."

"My show of Begonias, all raised from your seed, are every year the admiration and envy of all who see them."

**Double Seed, 2s. 6d. and 5s. per packet.**

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For fuller descriptions of the varieties mentioned in this list and all other known varieties, we refer our friends to the little book, "ALL ABOUT SWEET PEAS," by Mr. Robert Sydenham, revised and corrected to end of 1911. PRICE 6d.

The seeds in these collections are all carefully hand picked; all small, poor, or doubtful ones are taken out; eighty to ninety per cent. guaranteed to germinate if treated as instructions sent with each collection.

EACH PACKET in Nos. 1 and 2 CONTAINS 60 SELECTED SEEDS. Buyers not wanting any collection complete may select their own varieties from EITHER COLLECTION at prices mentioned, and have 3 - worth for each 2 6.

#### COLLECTION No. 1—12 useful Grandiflora varieties, 1/3

Dainty, white, with slight pink edge, 2d.; Duke of Westminster, rosy violet, 2d.; Janet Scott, pale pink, 2d.; King Edward VII., rich crimson, 2d.; Lord Nelson, dark blue, 2d.; Mrs. Collier, pale primrose, 2d.; Phenomenal, white, with blue picotee edge, 2d.; Prince of Wales, rich deep rose, 2d.; Queen of Spain, salmon pink, 2d.; Romolo Piazani, medium blue, 2d.; Rose du Darri, combination of deep carmine, rose and orange, a grand artificial light flower 4d.; Triumph, rosy salmon and blush bicolor, 2d.

#### COLLECTION No. 2—12 best Grandiflora varieties, 1/6

Black Knight, rich dark bronzy chocolate, 2d.; Dorothy Eckford, best white self, 2d.; Helen Pierce, pretty marbled blue, 2d.; Joannie Gordon, carmine and buff bicolor, 2d.; Lady Crissel Hamilton, pale lavender, 2d.; Mid Blue (*syn. Zoo*), rich blue, 2d.; Miss Willmott, best salmon red, 2d.; Mrs. Walter Wright, rich rosy mauve, 2d.; Prima Donna, pale blush pink, 2d.; Queen Alexandra, the best crimson scarlet, 2d.; Saint George, rich orange scarlet bicolor, 3d.; Zarina, pale salmon pink, 4d.

Single Packets of any variety in Collections Nos. 1 and 2, at prices mentioned

COLLECTIONS Nos. 1 and 2 WHEN BOUGHT TOGETHER WILL BE 2 6. And 25 seeds each of the four best striped varieties will be added free of charge, viz.: Jessie Cuthbertson, Mrs. J. Chamberlain (*or Aurora*), Prince Olaf, and Unique. Either of these striped varieties, 1 1d. per packet.

EACH PACKET in Nos. 3 and 4 CONTAINS 25 SELECTED SEEDS

#### COLLECTION No. 3—12 GOOD WAVED VARIETIES, 2/-

America Spencer, bright rosy-scarlet flake, 3d.; Apple Blossom Spencer, rosy pink and blush, 3d.; Black Knight Spencer (*or Othello Spencer*), rich dark maroon, 3d.; Constance Oliver, creamy pink, flushed deep pink, 3d.; Evelyn Hamus, primrose with pink picotee edge, 3d.; Frank Dolby, lavender, 2d.; Gladys Unwin, pink, 2d.; Helen Lewis, orange and rose, 3d.; John Ingman, carmine and rose, 3d.; Nora Unwin, white, 2d.; Paradise Ivory, pale primrose, slightly tinged with pink, 3d.; Scarlet Monarch, bright crimson scarlet, 4d.

#### COLLECTION No. 4—12 BEST WAVED VARIETIES, 2/6

Asta Ohn (*or Mrs. Charles Foster*), best lavenders, 3d.; Clara Curtis, primrose, 3d.; Countess Spencer, large pink, 2d.; Earl Spencer, good salmon orange, 4d.; Elsie Herbert, white, with pink picotee edge, 4d.; Etta Dyke, finest white, 2d.; Helen Grosvenor, orange and rose, 4d.; Maud Holmes, rich sunproof crimson, 6d.; Mrs. C. W. Breadmore, pale primrose, with pink picotee edge, 3d.; Mrs. Roufzahn Spencer (*or Mrs. Henry Bell*), pale pink on cream, 3d.; Mrs. Nardoastle Sykes, blush pink, 3d.; Tennant Spencer (*or The Marquis*), large rosy mauves, 3d.

COLLECTIONS Nos. 3 and 4 MAY BE HAD TOGETHER FOR 4 -, and 25 seeds each of Marie Corelli and Mrs. A. Ireland, free of charge.

COLLECTIONS Nos. 2 and 4 MAY BE HAD TOGETHER FOR 3 6, and 50 seeds of the choicest Spencer Seedlings free of charge.

### SPECIAL PRICE for the Four Collections, 6/-

Which, with the 6 added varieties, and 50 seedlings, will be the best collection ever offered for the money.

#### NEW VARIETIES

In conjunction with MR. ROBERT HOLMES, of Norwich, we are putting the following splendid novelties on the market in 1912. All have come perfectly true in 1911, but are sold without guarantee the first year.

Barbara, a large salmon-orange self (6 seeds), 2 - (not sold apart from the collection); Charlie Foster, pale satiny pink, flushed pale mauve (10 seeds), 6d.; Edith Taylor, a distinct rosy cerise, or salmon-rose self (6 seeds), 1 6 (not sold apart from the collection); Lady Evelyn Eyre, large pale pink, flushed salmon, or a large improved Mrs. Hardcastle Sykes (10 seeds), 6d.; Millie Maslin Spencer, large magenta-crimson (10 seeds), 6d.; Mrs. T. W. Warren, a bright Spencer form of Helen Pierce (10 seeds), 6d.; Orion, a dark glowing reddish crimson (10 seeds), 6d.; Scarlet Emperor, the largest and brightest scarlet (6 seeds), 1 3; Scarlet Empress, a large improved Scarlet Monarch (10 seeds), 6d.; Thomas Stevenson, the finest of the orange-scarlet self (15 seeds), 6d.

SPECIAL PRICE FOR THIS COLLECTION OF 10 VARIETIES, 6 -

In addition to the above we offer

Arthur Green, rich claret, or plum-coloured self (25 seeds), 4d.; Elfrida Pearson, fine blush pink, tinged salmon (25 seeds), 6d.; Ethel Roosevelt, pale rose flake on cream ground (25 seeds), 4d.; Florence Nightingale, one of the best lavenders (26 seeds), 3d.; Mrs. Townsend, a bluish white, with blue picotee edge (25 seeds), 3d.; Nubian, finest dark maroon self (15 seeds), 6d.; Pearl Grey Spencer, a pretty dove grey, shaded rose (12 seeds), 6d.; Rainbow Spencer, a new rose flake (15 seeds), 6d.

Special Price for this complete collection of 18 New Varieties, 8 -

And 50 seeds of choicest Spencer Seedlings free of charge

SPECIAL PRIZES will be offered at about 100 Shows in 1912, varying from £2 to £50 at a Show  
**SALTAIRE will be the £50 Show**

Full particulars on application



MESSRS. THOMPSON & MORGAN, Seedsmen, Ipswich, send an exceptionally interesting seed list. The present-day craze is for novelty in the garden and greenhouse. This firm caters for those who wish to beautify their gardens, and has been instrumental in introducing many good plants into British gardens. The list is comprehensive, and includes annuals, perennials, and greenhouse plants. English names are given as well as the Latin. The novelty seed list includes some very interesting plants, such as new forms of Clarkias, Asters, Nasturtiums, Dimorphothecas, and the new Chinese Primulas. For inside sowing we are pleased to note an early flowering form of one of the most beautiful blue flowers in existence—*Ipomaea rubro-cœrulea*, also the new Hybrid Gerberas, which have attracted attention wherever they have been shown; the new scarlet Cineraria Matador, and many other good things.

MESSRS. POWER & Co., Waterford, send an interesting photograph of trees and shrubs being packed for the order of the Beluchistan Government, to be planted under the supervision of the Conservator of Forests, Quetta. The items include Tulip-trees, Planes, various Oaks, Limes, Sycamores, Alanthus, Hollies, Alder, Beech, and Elms, all packed in specially constructed wood-cases to ensure their arrival in perfect condition, because six weeks may elapse before they reach their destination.

MESSRS. ROBERT BOBY, LTD., St. Andrew's Works, Bury St. Edmunds, Suffolk, send an illustrated list of implements for the farm and garden. In the list we notice the "Simplex" and "Universal" hand seed drills. The seed is placed in a hopper, and by pushing the drill along the seed is sown as quickly as the man walks. Where a quantity of peas, mangolds, turnips, onions, &c., have to be sown, these drills will be found a great saving in both time and expense.

"FROM FIELD TO DAIRY," by William Shepperson, F.C.S., published by Simpson, Marshall & Co., Ltd. This second edition meets the requirements of those interested in dairying and the agricultural industry, as

## 'PHAROS' WEED KILLER

ONE APPLICATION PREVENTS THE GROWTH OF ALL WEEDS THROUGHOUT THE SEASON

The very concentrated form of the 'Pharos' Weed Killer, 1 part to 60 parts of water being sufficient for dressing 200 to 250 square yards of Paths or Drives, combined with the low figure at which it is sold, makes it absolutely the cheapest in the market.

$\frac{1}{2}$ gallon Drum	..	2/- each
1 "	"	3/6 "
2 "	"	6/6 "
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5 "	"	15/- "
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### "CLIMAX" LAWN SAND

Kills weeds on lawns, fertilizes the finer grasses; it has transformed thousands of weedy lawns. IF YOURS IS NOT A "CLIMAX" LAWN, WEEDLESS, VELVETY, THICK IN GROWTH AND RICH IN COLOUR, YOU SHOULD USE OUR LAWN SAND NOW. BUT IT MUST BE "CLIMAX." Large maple and full particulars, 1 post free, 28 lbs., to dress 100 sq. yds., 6 : 50 lbs., 11 : 1 cwt., 20 : carriage paid.

### "CLIMAX" WEED KILLER

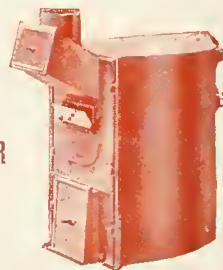
Kills all weeds on walks and keeps them bright and clean. FOR 12 TO 18 MONTHS. CERTAIN DEATH TO ALL WEEDS. No. 1 tin, 1- : No. 2, 2- : No. 3, 3/6 No. 4, 6/-, carriage paid.

"Reliable Garden Helps," 1d. post free.

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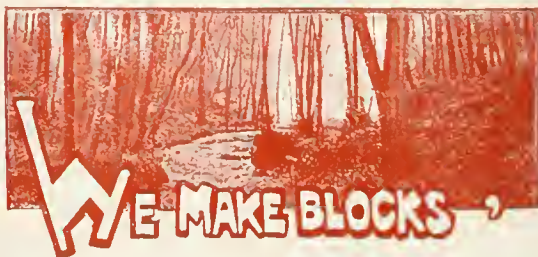
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## T.T.'S SWEET PEA OFFER

20 YEARS AN ADVERTISER 64-PAGE CATALOGUE FREE 5/- ORDERS CARRIAGE PAID KEEP THIS ADVT.

### COLLECTION A.—6 Varieties, 1s. Waved Standards, 50 Seeds in each Packet

**Frank Dolby** (new), a lovely pale blue, after the style of Lady Grisel Hamilton, but very much larger, bold wavy standard, like Gladys Unwin. The largest and finest pale blue Sweet Pea.

**Countess Spencer**, carefully selected, beautiful, large-flowered pink waved petals.

**Nora Unwin** (new), a charming pure white, far out distancing Dorothy Eckford, flowers large with wavy standard, and of Gladys Unwin type.

**E. J. Castle** (new), flowers very large, wavy standard, colour a rich carmine-rose, with salmon shading, very striking, especially in artificial light.

**St. George** (new), brilliant orange-salmon, slightly waved.

**Paradise** (new), fine pink, wavy standard. 50 Seeds in each pkt., mixed, pea pkt., 3d. and 6d. 3 Collections, 50 Seeds each, A, B, C, 2 6 the Set.

### COLLECTION B.—9 Varieties, 50 Seeds of each, 1s.

**A. J. Cook** (new), fine violet-mauve, resembling Mrs. Walter Wright in colour, with the size and form of Gladys Unwin.

**Duke of Westminster**, delicate apricot, flushed standard, with wings of a delicate rose, long to stems.

**King Edward VII.**, bright crimson-scarlet. **Lady Grisel Hamilton**, pale lavender blue.

**Lord Nelson** (new), brilliant blue, fine, rich, bright.

**Mrs. Collier** (new), large fine yellow-blue. **Prince of Wales**, light rose, self-coloured.

**Sybil Eckford** (new), primrose, standard pink and terra-cotta.

**Mrs. Alfred Watkins** (new), a superb pink of Gladys Unwin type, colour a pale pink, much like the old Princess Beatrice, but the flowers are much larger with wavy standards.

9 Varieties, 50 Seeds each, 1s. 100 Seeds each, 1 9

### COLLECTION C, or UP-TO-DATE.—50 Seeds each, 12 sorts, 1s.

**Dainty** (new), white, with pink protee edge. **Gladys Unwin**, a lovely pale pink, with wavy standards, fine market variety.

**Henry Eckford** (new), fine salmon orange self, distinct.

**Hon. Mrs. E. Kenyon**, deep primrose, grand flower.

**Jessie Cuthbertson** (new), pale buff, striped with rose-magenta, three and often four flowers on a stem. A very distinct and charming variety.

**Miss Willmott**, rich deep orange-pink, almost a self: one of the finest yet sent out, a grand flower of great substance, strong grower and long stalks.

**Navy Blue**, deep violet-blue.

**Queen Alexandra** (new), the finest scarlet self, stands the sun well.

**Romolo Piazzana** (new), a violet-blue self, flowers of good size and substance.

**Salopian**, beautiful blue-scarlet self, very large flowers.

**Triumph**, very large orange, pink and white.

**Black Michael**, deep maroon, self coloured.

**SWEET PEAS IN MIXTURE**, New Waved Varieties (Spencer and Unwin), per packet, 2d.; per ounce, 1s.

**SWEET PEAS, GIANT VARIETIES**. Only our own Special Mixture, 2 6 lb.; 1 lb. pkt., 9d.; oz., 4d.

### DOUBLE AND SEMI-DOUBLE BEGONIAS FOR SHOWING

**Turner's Double White Exhibition**, each, 81. 12. 6 - 100. 45

**Turner's Double Scarlet**, brilliant, each, 81. 12. 6 - 100. 45

**Turner's Double Satiny Pink**, each, 81. 12. 6 - 100. 45

**Turner's Double Crimson** (Jacoby), each, 81. 12. 6 - 100. 45

**Turner's Double Canary Yellow**, each, 81. 12. 6 - 100. 45

**Turner's Double Begonias**, mixed, each, 6d. 12. 4. 6 - 100. 35

### £1,000 WORTH OF BEGONIA TUBERS

Turner's Hybrid Gigantea Grandiflora. Taken prizes all over the world during the last twenty years. Better quality this year. Improved strain. **Turner's Begonia Tubers**, ivory white, each, 6d. 12. 5. 6 - 100. 35

**Turner's Begonia**, crimson, colour of Jacoby, very effective, each, 6d. 12. 5. 6 - 100. 35

**Turner's Begonia**, brilliant scarlet, makes a grand show, each, 6d. 12. 5. 6 - 100. 35

**Turner's Canary Yellow**, large flowers, very effective, each, 6d. 12. 5. 6 - 100. 35

**Turner's Satiny Pink**, flowers 6 to 7 inches across, each, 6d. 12. 5. 6 - 100. 35

**Turner's Orange**, magnificent, each, 6d. 12. 5. 6 - 100. 35

**Turner's Mixed**, all colours, each, 4d. 12. 3. 6 - 100. 25

Have the Best at Lowest Prices!

**Special Offer**.—Collection, 15 tubers, 5 6 at above 100, in 5 sorts, 32 6. Better cannot be bought.

**Turner's Double Bedding Begonias**, white, scarlet, pink, yellow, crimson, 12. 2. 50. 6. 6 - 100. 12

### BEGONIA, TEMPLE COLLECTION, 2 6

1 Turner's Best Double, 1 Turner's Hybrid Gigantea, 1 Crispa nanus, new frilled; 1 Crested or Crestata, with crest on each petal: these are our best quality at bottom price for exhibition, 1 of each (5) for 2 6. 2 of each (10) for 4 6; 4 of each (20) for 7 6. The Marmorata are mixed, the other four purchasers can choose their own colour.

**Begonias, Crested (Cristata)**.—These are very pretty flowers, 3 to 6 inches across, each petal a beautiful crest. Enormous sales. Distinct from any other variety. Stock limited. Can be had in separate colours. Impossible to describe beauty on paper. Separate, Scarlet, Orange, White, Crimson, Yellow, each, 6d. 12. 6 - 100. 35. Or collection, 15 in 5 varieties, for 5 8. 100. 32. 6. A few picked ones at 1 each. 12 for 10. Smaller bulbs, mixed, each, 3d. 12. 2. 6. **Great Novelty**.—Begonia Marmorata, Papilio or Butterfly Begonia, 1 each: 12. 10 - 100. 75

### GLOXINIAS HYBRID GIGANTEA

**Turner's Defiance**, extra large flowers, brilliant colours, each, 6d. 12. 4. 6

**Turner's Champion Blue**, for exhibition, each, 6d. 12. 4. 6

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**Turner's Mont Blanc**, white, each, 8d. 12. 4. 6

**Turner's Excelsior or Queen Louise**, each, 6d. 12. 4. 6

Or 6, in 6 colours, 2 6 12 for 4 6

### 4,000 CACTUS DAHLIAS, Large Roots

**Agnes Christina**, Krombilda, Pink Pearl, Canary Bird, J. J. Crowe, Uncle Tom, Keyne's White, Progenator, Imperator, extra, at 6d. each 12 for 5 mixed, 4d. each: 12 for 3 6

### 2s. 6d. COLLECTION LILIES

2 *Lilium auratum*, 2 *Lilium longiflorum*, White Trumpets, 2 *Lilium tigrinum*, 2 *Lilium laevis*, folium roseum, 2 *Lilium lanceifolium* rubrum, 2 White Trumpet—the 12 for 2 6

20,000 Lily of Valley Crowns, 25. 1 100. 3 6 1/2, 32 6

### CLADIOLUS

5 Childs New American Hybrids, 5 Gratts Hybrids, 5 Nanceman, 5 Lemmes, 5 Gandavensis Hybrids, mixed, 25 as above, 1 6 Double, 2 6

### 15,000 HYBRID PERPETUAL, All Named

All named, the very best sorts, offered for one week at 3/- dozen; all best quality and best named 10s. only. All fit for Show table.

### 10 8 WORTH OF SEEDS FOR 2 6, Carriage Paid

**Artizan 2 6 Collection**—Year's supply. 1 pint of Garden Peas, 1 foot 1 pint of Turner's Selected White Runner Beans; 1 pint of Broad Bean Masterpiece, 1 packet of each of the following: Turner's Selected Red Beet, Broccoli, Lady Queen; Turner's Brussels Sprouts, selected for exhibition; Early Cabbage; Borecole or Kale; Superb Heading Cauliflower, Early Snowball, worth 1/-; Celery, Prize-maker, Cucumber, Ford, look best outside; Endive, Moss-Carrot, Leek, Lyon, best for exhibition; Lettuce, All-the-Year-Round; Lettuce, Exhibition, White Coss; Mustard, White; Cured Cress; Savoy, Early Dwarf, Vegetable Marrow, Long Trailing; 1 ounce of each, Turner's Exhibit on Onion, worth 1/-; Linn. Scarlet Radish; Carrot, Alfrincham Improved Parsnip, the student Turnip, Model White 12 packets, best assorted Flower Seeds, All above new seeds. 2 6 10s Carriage Paid. 4d. per lb.

**Special Notice to Readers of IRISH GARDEN-INC. ONE WEEK ONLY.** Test Advertisement. Gratis with every 5/- order 5 of my Cold Medal Double Begonia Tubers, or 5 Gloxinias Hybrid Gigantea. Mention gratis, as they are not offered elsewhere. Don't miss these. I have sold them for last 20 years. Take prizes anywhere.

**THEODORE TURNER, F.R.H.S., The Temple, Dale St. Liverpool**



it supplies in a small compass a considerable amount of information up to date. It is a handy little book for reference, and is intended to be used in the sense of a text book rather than a treatise.

MESSRS. YOUNG & CO., Hatherley, Cheltenham, are specialists in growing American Carnations, and send the booklet they publish, entitled "Cultivation of the Perpetual Flowering Carnation." The booklet is by a grower, and therefore very practical. As a check for red spider (a troublesome pest) the writer recommends—"One three-inch not full of common salt (not table salt) to one gallon of soft water. Give the plants a good syringing all over with very fine spray, first covering the blooms with tissue paper, otherwise they will be spoiled."

## Dublin Wholesale Markets.

**D**URING this month the variety of fruits on sale in the markets is supplemented by the arrival from Cape Colony of consignments of apricots, pears, plums, nectarines, and peaches. The good condition in which these fruits usually reach this country is evidence of careful handling and skilful packing. While plums and pears invariably arrive in good order, a few of the cases of peaches when opened reveal one or two unsound fruit; but judging by appearances, this appears to be rather due to over-ripeness of the fruit than to any defect in packing. Grapes are now to hand from the same country, and these, together with the Belgian Gros Colmans, constitute the main supplies.

Home-grown apples are now very much scarcer, and, in consequence, prices have risen considerably. Bramley's Seedling, Newton Wonder, and Lane's Prince Albert are the only varieties which are now being sold by the barrel. The question of the storing of apples is a very important one to growers, and the man who has good facilities for holding back his fruit is the man who will make a profit out of fruit-growing, as the prices which are now offered are almost double those which were to be obtained three months ago.

Considerable quantities of cut flowers in variety now grace the markets, but no difficulty is experienced in disposing of them, as they are much in demand at the present time. White flowers in particular seem to be rather scarce, while the same may be said of decorative foliage, which is principally represented by sprays of Asparagus plumosus and Smilax. Narcissi, Cinerarias, Cyclamen, Primulas, Hyacinths, and Tulips comprise most of the pot plants which are to be found on some of the salesmen's stands, and these, as well as the cut flowers, are receiving a good deal of attention from buyers.

The severe wintry weather in the earlier part of the month was responsible for a slight rise in the price of vegetables. Cabbages and broccoli especially have noticeably increased in value. The Savoy cabbages,

which are of excellent quality, have benefited by the frost, and now realise more than the Yorks; but, as may be expected at this time of year, the latter are of poor quality. Rhubarb is now being sent in from home sources, with the result that prices are much diminished. Turnips still hold dear, and growers who have this crop in quantity have cause to congratulate themselves on the fine prices which this vegetable has been fetching this past winter.

The following were the prices:

FRUIT.		From	To
		s. d.	s. d.
Apples—Bramley's Seedling	per barrel	16 6	22 0
" "	per tray of 15	1 6	1 9
Mixed sorts	per float	1 4	1 6
American	per barrel	22 0	28 0
Grapes Gros Colman	per lb.	1 3	2 0
Nectarines (Cape)	per box	7 6	10 0
Peaches	do.	6 0	9 0
Pears	do.	3 6	4 6
Plums	do.	2 0	3 6

FLOWERS.			
Adiantum Fern	per doz. bunches	5 0	6 0
Anemones	per doz. blooms	0 8	0 9
Arum Lilies	do.	3 0	4 6
Asparagus plumosus	per doz. sprays	9 0	10 0
Hyacinths, Roman	per doz. bunches	3 0	4 0
Lilium speciosum rubrum	per doz. blooms	2 3	2 6
Lily of the Valley	per doz. bunches	12 0	16 0
Narcissus Soleil d'Or	do.	1 0	1 4
Golden Spur	do.	2 0	2 6
Tulips	per bunch	1 2	1 9
Violets	per doz. bunches	0 6	0 8

VEGETABLES.			
Artichokes Jerusalem	per float	1 6	1 9
do. (Globe)	per doz. heads	3 0	4 0
Beetroot	per float	0 4	0 6
Broccoli	per basket	3 6	4 0
Brussels Sprouts	per float	1 0	1 6
Cabbages (York)	per load	14 6	25 0
do. (Savoy)	do.	18 6	27 0
Carrots	per doz. bunches	0 7	0 8
Celery	per bunch	0 10	1 6
Cucumbers	per dozen	7 6	10 0
Leeks	per doz.	0 3	0 4
Lettuce	per doz. heads	1 0	1 3
Mint	per doz. bunches	1 0	2 0
Onions	per bag	0 0	10 0
Parsley	per tray	0 4	0 6
Parsnips	per bag	3 6	4 0
Rhubarb	per dozen	0 8	0 10
Seakale	per punnet	0 0	1 0
Spinach	per tray	1 4	1 6
Turnips (white)	per bunch	0 3	0 6
do. (Swede)	per cwt.	0 11	1 2

21st February, 1912.

A. C.

# CANARY GUANO

"THE BEST IN THE WORLD"

There is no Fertilizer that gives such good all round results as CANARY GUANO. It is used by the leading Amateur and Trade Growers all over the Country. A post card to the Manufacturers will ensure full particulars. Sold by practically all Seedsmen, in Tins 6d., 1/- and 2/6; and in Bags, 14 lb., 3/6; 28 lb., 6/-; 56 lb., 11/-; 1 cwt., 20/- each

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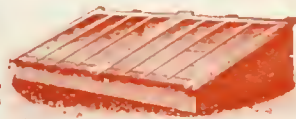
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ROYAL INTERNATIONAL  
**Horticultural Exhibition**

Royal Hospital Gardens=====Chelsea, London

**May 22nd-30th, 1912**

TO BE OPENED BY . .

**HIS MAJESTY THE KING**

**THE GREATEST FLOWER SHOW** ever held in the United Kingdom

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*Organising Secretary, 7 Victoria Street, LONDON, S.W.*

☞ ☞ TWO CUPS HAVE BEEN PRESENTED BY THE ROYAL  
HORTICULTURAL SOCIETY OF IRELAND

## New Michaelmas Daisies.

TO any one who has not seen the latest varieties a real treat is in store. Varieties of recent introduction have more flowers open at the one time, a great point of advantage over the old kinds, from which decayed flowers require to be cut when using the branches for decoration. But it is in the colours, graceful habit, and size of flowers that the greatest advances have been made. Climax is a fine new one much in demand for its clear blue flowers, two inches across, and also Lil Fardell, with equally large rich pink flowers; there are now several splendid pink kinds. Keston Blue is, perhaps, the bluest of any; Beauty of Colwall is the new double-flowered variety, bearing blue flowers; Winnie Brazier is soft lavender pink, with deep golden centre, flowering in graceful sprays with heath-like foliage; Thirza is a dainty pink with cream shading, producing perfect pyramidal branches well in flower at the one time; Splendens is a rich blue, with fine erect habit and long graceful sprays. It is hard to beat Maidenhood, with small pure white flowers, borne in profusion on tall tapering stems; Gaiety has a graceful pendulous habit, with a marvellous amount of white flowers suffused with delicate rosy lavender. One of the most striking sections is the *anellus* type, of which several grand new hybrids have been raised. Never exceeding two feet in height, they give broad masses of the largest flowers obtained in Michaelmas Daisies. Another section of great artistic beauty is the *cordifolius* class, with myriads of minute flowers, such as Photograph, with its shimmering mists of rosy lavender-shaded flowers on erect stems. All the varieties here mentioned and many other lovely kinds are more fully detailed in the new publication—"Garden Flowers, 1912"—turned out by Messrs. Watson & Sons, Clontarf Nurseries, Dublin. They will send a copy free of cost to any reader of IRISH GARDENING, and now is the time to plant.

## Royal Horticultural Society of Ireland.

At the monthly meeting of the council held on the 8th ult., Sir Frederick W. Moore gave a report on the invitation which had been sent to members of the society to subscribe for the "Irish Cup," for presentation to the Royal International Horticultural Exhibition, which was considered very satisfactory, inasmuch as a substantial balance over was shown, with which it was resolved that a smaller cup, to be awarded for hardy plants, should be further placed at the disposal of the International Executive, the remaining balance being given as a subscription towards the expense and liability incurred by the Ulster Rose and Floral Society (in the interest of the Belfast Rose Show, July 19th) in bringing the National Rose Society's Provincial Show to Ireland for the first time in its history. Judges were nominated for the spring show, to be held on April 17th and 18th, in conjunction with the Royal Dublin Society's Cattle and Implement Show. Entries for the flower show close April 9th, apart from which, and in view of the demands on comparatively limited space, it is important that application for space for trade exhibits should be sent in as early as possible. A cultural certificate was awarded to Mr. Bedford, Straffan Gardens, Co. Kildare, for well kept excellent specimens of Hoary Morning and Newton Wonder apples. Votes of thanks were passed for a contribution of fine splendidly coloured samples of Mere de Menage, Newton Wonder, Lane's Prince Albert and Bramley's Seedling apples grown within two miles of the G.P.O., Dublin; also to Captain Riall, for beautifully flowered branches of the Mimosa (*Acacia dealbata*) from a tree growing in the open at Old Conna Hill, Bray, and to Messrs. Chas Ramsay & Sons, for daffodils and tulips from the Royal Nurseries, Ballsbridge.

## IRISH SEED POTATOES

Send for list of varieties offered by  
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100 Herbaceous, named . . . . .	for 30/-
50 " " " " " " " " " " " "	15/-
25 Roses without names . . . . .	8/6
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1 cwt. 20/-; ½ cwt. 10/-; ¼ cwt. 6/-; 11 lbs. 36/-; 7 lbs. 26/-; Tins, 26/- and 6d. Carriage paid on 1 cwt. anywhere

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½ cwt. 20/-; ¼ cwt. 11/-; 11 lbs. 6/-; 7 lbs. 36/-; Tins, 1-/- Carriage paid on ½ cwt. anywhere.

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No.	size	1 in - 1 pt. contains sufficient for	40,000	15	0
No. 2	size Tin - 1 pint	"	20,000	7	6
No. 3	size Bot. - 6 oz.	"	12,000	4	6
No. 4	size Bot. - 4 oz.	"	8,000	3	0
No. 4	size Bot. - 2 oz. new size	"	4,000	1	8
No. 5	size Bot. for "sample"	"	2,000	0	10

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**PRICES** Half pint, 1-; pint 16; quart, 26; half gallon, 4-; gallon, 76; five gallons 25-; ten gallons, 40-  
1 gallon sufficient for 10 gallons of water.

Sold in Trus, **1 -**, **2 6**, **5 6** each and in Kegs, well secured, to prevent loss through exposure, **2 lbs., 7 6**; **5 lbs., 12 6**; **112 lbs., 20 -**

Sold in Tins, 1 -, 2 6, 5 6, and Bags, 10 6; 4 cwt., 18 -;  
1 cwt., 32 -

Registered No. 62,597

No. 1, for small frames of 100 to 200 cubic feet, **6d.** each - Cone No. 1, **8d.** each. No. 2 to 1,200 cubic feet; No. 3, **1-** each, 2,000 to 45,000 cubic feet.

This preparation is for destroying Daisies and other weeds on lawns, and at the same time stimulating the growth of the grass. If one trial is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Lbs. 1 -, 2 6, and 5 - each; Kegs.  $\frac{1}{2}$  cwt., 8 6; 1 cwt., 16 -;  
1 cwt., 30 -

Registered Trade Mark No. 14,629.

**(The only genuine original and improved article)**

**For Greenhouses.** A pleasant green shade is given to the glass. In packets, 15¢ for 100 feet of glass, and 26¢ each for 250 feet.

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## Lucan, Saggart, and Clondalkin Horticultural Society.

THE Third Annual Report of this Society, to hand, shows steady progress. Mrs. Rd. Shackleton, Hon. Secretary, writing, says:—"We find the cottagers are more enthusiastic every year. I think these flower and industrial shows are looked forward to by the cottagers all the year round; our show at Lucan last year was to them quite the great day of the year, being held on Saturday, when factory and mill are closed; people came from far and near." By kind permission of Col. Finlay, D.L., the 1912 show will be held at Corkagh, Clondalkin, Saturday, July 20th.

## Shows

ON Wednesday, the 31st of July, the Kingstown Horticultural Society holds its annual show in the People's Park, Kingstown. Entries close on 24th July. The schedules may be obtained from the Secretary's Office, Technical Schools, Kingstown, and comprise 65 classes, which include roses, greenhouse plants, sweet peas, annuals, cut flowers, carnations, fruit and vegetables; there are also beekeepers' classes and cake competitions. The show is always bright and attractive, and never fails to bring together a large number of people.

THE Stillorgan and Foxrock Horticultural Society holds its fourth annual show in the paddock of Leopardstown Racecourse on Saturday, the 6th of July. Entries close on July 1st. The society is affiliated with the Royal Horticultural Society of Ireland, which offers a bronze medal for the best individual exhibit in classes for roses, carnations, sweet peas, and herbaceous plants, shown by a member of the Stillorgan and Foxrock Society. The entries are usually numerous, and

make a very fine display, and, as might be expected for such a neighbourhood, the competition is keen. The schedule may be obtained on application to the hon. secretary, T. F. Crozier, Avonmore, Stillorgan.

## Books and Catalogues.

AT Christmas last that old but up-to-date firm, whose name, by the way, is an assurance of their Irish extraction, Richard Sankey & Son, of Bulwell Potteries, Nottingham, England, had the remarkable number of over seven millions of their famous garden pots in their warehouses. This vast stock is now being despatched from the firm's private railway sidings at the rate of more than a million per week. The weekly output is approximately five hundred thousand. Although situated in the centre of England, the firm ship to all parts of the world—almost daily to Ireland (from Cork to Londonderry) in any quantities—from a small crate to a full cargo.

MESSRS. WATSON, the Clontarf Nurseries, Dublin, send a copy of their 1912 catalogue, called "Garden Flowers." Beautiful figures illustrate some good, hardy flowers, which are easily grown in most gardens with a little care, and will provide the home with a quantity of cut flowers throughout the summer and autumn. The catalogue contains a select list of hardy perennials, early flowering Chrysanthemums, Phlox, Violas, and Dahlias. Hardy Climbers and Wall Shrubs are described; by means of these, bare walls can be clothed with mantles of greenery and blossom, and a list of tender plants is given which should give colour to the greenhouse throughout the year.

J. CHEAL & SONS, of Crawley, have now formed their business into a private limited company. The business

# SWEET PEAS

## Edmondson's Eblana Collections

25 Varieties, 40 seeds each—1,000 seeds for 1s. 6d.

25 Varieties, 80 seeds each—2,000 seeds for 2s. 6d.

The "Minor Eblana" Collection, 12 choice sorts, 1s.

The "Novelties" Collection———12 novelties, 5s.

Eblana Mixture, 1 qt. 5s., 1 pt. 2/6,  $\frac{1}{2}$ -pt. 1/6, 1 oz. 3d.

Giant-flowered Mixture, 1 lb. 5s.,  $\frac{1}{2}$ -lb. 2/6, 1 oz. 6d.

Spencer Mixture, 1 lb. 12/6,  $\frac{1}{2}$ -lb. 6/6,  $\frac{1}{4}$ -lb. 3/6, 1 oz. 1s.

# EDMONDSON BROTHERS

SEEDSMEN

10 DAME STREET—DUBLIN





was established in 1871, and has from the first shown a steady growth. The nurseries were commenced on ground at Lowfield Heath, on a portion of the common, about forty-five acres in extent, purchased by the late Mr. John Cheal, on the enclosure of the common, about sixty years ago. The objects of the formation of the company are stated to be the facilitating of family arrangements, the establishment of the business on a permanent basis, and provision for its further growth. The directors are Messrs. Joseph and Alexander Cheal, who, with their late father, were the founders of the business; Messrs. Ernest and Arthur Cheal, sons of Mr. Joseph Cheal, who have for many years taken an active part in the management, and Mr. Reginald Dann, who has for eleven years been connected with the landscape department, and is, therefore, well known in connection with the work of the firm. We understand that all the ordinary and a portion of the preference shares are held by the directors, but there are a few of the preference shares being subscribed for by others.

"PROFITABLE POULTRY KEEPING" is a book published by C. A. Pearson, Ltd., London, price 1s. It is written especially for the small holder, but should be a help to those interested in this subject. Ducks, geese, turkeys and fowls are dealt with, and the various chapters include fattening for market, incubators, breeds of poultry, &c. It should be remembered that when keeping fowls for egg production it is not enough to get one of the usual laying breeds, but take all possible care to obtain a good laying strain of the breed chosen.

MESSRS. ROBINSON, LTD., West Bromwich, Birmingham, are promoting a flower show at the Botanical Gardens, Edgbaston, and a sum of £350 is to be distributed in prizes. The show is to be held on the 28th and 29th of August, and the show schedules may be obtained from the above address. Messrs. Robinson are the manufacturers of the "Carmona Fertilisers." Some forms of this fertiliser have been compounded for special subjects, as Tomatoes, Sweet Peas, Roses, &c. The firm also produce a Weed Killer, Pine Spray Insecticide, Velvas Lawn Sand, and Clift's Fluid Insecticide. All products are sent out in large or small quantities.

## News from Nova Scotia.

**THE LIFE OF AN APPLE TREE IN NOVA SCOTIA.**—The life of an apple tree in Nova Scotia is from sixty to over one hundred years, a very great advantage over more trying climates, where from twenty to thirty years are all that can be counted upon. Thus in Nova Scotia when a man has once established an orchard, he is sure of an income from it, not only throughout his own life time, but for the next generation.

**THE CLIMATE OF NOVA SCOTIA.**—The climate of Nova Scotia is undoubtedly one of the most valuable assets of that part of Canada. It is moist without being excessively humid, has always a sufficient rainfall, and never runs to extremes of temperature. The heat of summer is seldom or never excessive, and the temperature invariably drops at sundown, ensuring delightful evenings, cool and comfortable. The hot summer nights of the inland countries are unknown. The winter season lasts a little over three months, and its temperature does not reach more than five or six degrees below zero. The air then possesses a clear, crisp quality that gives it an invigorating effect rather

## This Coupon is worth 3d.

When your garden is not thriving you may be sure that wireworms, slugs, beetles and other insect pests are at the bottom of the trouble. You *must* get rid of them if your plants are to have a fair chance; the quickest, easiest and surest way is to use

## KILOGRUB

It is a dry powder which gives off fumes absolutely fatal to insects though it has no effect on the plants. Two or three ounces dug into a square yard of soil

**will free your garden from  
every kind of Insect pest.**

Many well known gardeners and horticulturists use Kilogrub regularly, and have written letters expressing the highest appreciation of its efficiency. Will you try it in your garden? We will share the cost of the first tin you buy. Present the coupon below with 3d. to any good Seedsman and he will hand you a full size 6d. tin of Kilogrub.

Prices, cash with order, carriage paid:  
7 lb. ... 2/-      ½ cwt. ... 7/-  
½ cwt. ... 5/-      1 cwt. ... 11/6

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AWARDED 27 GOLD MEDALS

CATALOGUE FREE

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**Begonia Seed** should be sown in the early months of the year to enable the seedlings to give a glorious display of flowers in out-door beds during the late summer and autumn, and that the best may be selected for pot culture next season.

*Extracts from recent unsolicited Testimonials*

"Seeds last year were superb."

"I must say your seed is excellent; results extraordinary."

"My show of Begonias, all raised from your seed, are every year the admiration and envy of all who see them."

**Double Seed, 2s. 6d. and 5s. per packet.**

**Single Seed, Plain, Frilled, or Crested, 1s., 2s. 6d. and 5s. per packet.**

Our Illustrated Catalogue of Begonias, Carnations, Cannas, Cyclamen, Blue Primroses, Delphiniums, Lily of the Valley, Polyanthus, and Violets sent post free on application to

**BLACKMORE & LANGDON**  
Twerton Hill Nursery—BATH

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## SUTTON'S COLLECTIONS OF FLOWER SEEDS

The finest varieties, specially arranged to suit the requirements of gardens of all sizes. Will produce a magnificent display of bloom

2/6; 5/-; 7/6; 10/6; 15/-; £1 1s.; £1 11s. 6d.; £2 2s.;  
£3 3s. Carriage free. Full particulars on application

Complete Lists of all the best Flower Seeds, &c., will be found in SUTTON'S AMATEUR'S GUIDE  
IN HORTICULTURE FOR 1912

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Smith's "Perfect"  
Patent Powder

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MARVELLOUS INVENTION ✨ MOST EFFECTIVE

Thousands of  
Tins Smith's  
"Perfect"  
Powder  
Weed Killer  
used annually  
in Ireland

Nothing like it ever seen before. Soluble in Cold Water.  
All Tins Free. No Return Empties.

1 Tin, sufficient to make	25 gallons	£0	1	0	
4 Tins	100 "	0	6	6	
8 Tins	200 "	0	12	6	Box 3d. extra
12 Tins	300 "	0	17	0	" 4d. "
20 Tins	500 "	1	8	0	" 6d. "
12 Tins	1,000 "	2	10	0	" 1s. "

Carriage Paid on 8 Tins to Stations in Ireland.

THE GARDENS, THEYDON PRIORY,  
THEYDON, ROIS.

Your Weed Killer last year gave great satisfaction. I tried with Liquid and Powder and was well satisfied with the results of both; but as there are no empties to return with the Powder, it is with me preferable to the Liquid. I shall recommend it to all I can. C. WALSH.

SMITH'S LIQUID  
WEED KILLER

All Sized Packages. One Gallon makes 25 for use. (1 to 50 Strength supplied if required.) 8 Gallons sent Carriage Paid to Stations in Ireland.

IRISH AGENT—

NOTICE.—These Preparations are Poisonous. Sole Proprietors, MARK SMITH, Ltd.

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than the depressing influence common in many maritime countries.

**THE SOIL OF NOVA SCOTIA'S FRUIT REGION.**—The beautiful climate of Nova Scotia would avail little to the fruit grower were the soil not specially adapted to his purposes. The soil of the fruit region is a commingling of various ingredients. It is formed partly from the disintegration of the trap rock of the North Mountain, the red loam and coarse-grained sand of the new red sandstone, which abounds in oxide of iron, lime and gypsum. These constituents form a soil, rich, strong, and enduring. All the elements for the building of firm fruit tissue are contained therein. In addition there is an active principle which aids the friendly sunlight in imparting the piquant flavour and delicate deliciousness to Nova Scotian fruit that make it, in the opinion of many connoisseurs, just a little better than the best.

**A NEW WHEAT.**—It is not generally known that the thousand dollar prize awarded in New York City recently for the best wheat grown on the North American Continent, and which was secured by a Saskatchewan farmer, was won by Marquis wheat. Marquis wheat is one of a number of varieties which have been produced at the Government experimental farm at Ottawa by a crossing of Red Fife with various imported wheats of early ripening habit. The early maturing parent of Marquis was Hard Red Calcutta, obtained from India. It was isolated by Dr. Saunders, the Dominion Cerealist, by selection, in 1903. After been grown for three years at Ottawa, baking tests

were made from the crop of 1906, which showed that Marquis stands in the first rank for baking strength. This wheat was then transferred to the experimental farm at Indian Head for test under prairie conditions, where from larger tests in the field Marquis gave forty-two bushels per acre. While in 1909 and 1910 five acre lots at Indian Head yielded more than fifty-three bushels an acre. The wheat, moreover, is proved to possess high qualities in resisting rust, while it ripens also some ten days earlier than Red Fife. "In Northern Saskatchewan," says Dr. Saunders, "Marquis is certainly the very best variety known. The main points in favour of Marquis are its earliness in ripening, its remarkable productiveness, its strength of straw, the fine appearance of the threshed grain, its heavy weight per bushel, and the excellent colour and baking strength of the flour produced from it." This wheat can now be obtained in quantities for seeding purposes, and there is no doubt it must rapidly establish itself in the newer districts. Canada's experimental farm system is certainly to be congratulated on a practical achievement which will be of incalculable value.

## Tobacco Growing in Canada.

CANADA raises a good deal of the tobacco which is consumed in the country. The industry is of recent origin, and its prosperity has been largely promoted by the work of the Tobacco Division of the Government Experimental Farms, which has helped the growers in selecting and testing the right kinds of seed, and also by practical demonstrations of the best processes of curing the leaf. Canadian tobacco manufacturers compete eagerly now for all the tobacco that is grown in the country. The improvement of the quality may be imagined when it is stated that some fifteen years ago samples of the tobacco then grown by the Quebec farmer for his own use, upon being submitted to several of the leading tobacco manufacturers in the United Kingdom, was pronounced to be of a quality quite unfit for their purposes; that in their opinion a use for it might be found for fumigation purposes as an insecticide for green-houses, and that its commercial value was about a penny a pound. Tobacco is at present raised almost entirely in Quebec and Ontario. The total crop last year was 20,000,000 lbs., two-thirds of the whole crop being raised in the latter province. The yield averages 1,500 lbs. per acre in normal years, and if well cured commands from 6d. to 7½d. per lb. for "binders," and from 4d. to 4½d. for pipe tobacco. The "Comstock" and "White Burley" varieties are mainly grown, but hybrids of the above have recently been introduced—namely, the "Yamaska" and "Big Ohio X Sumatra," from which yields of 1,500 to 2,000 lbs. per acre are readily obtained, with a considerable improvement in the size, shape, thinness and elasticity of the leaves. Tobacco is thus one of the most paying crops. It is generally grown in areas of one to four acres, especially in the fruit-growing districts of Ontario and Quebec, where it makes a useful adjunct to fruit-growing. Recent experiments in Nova Scotia demonstrate that the Annapolis Valley, the pick of Nova Scotia's orchard area, is highly adapted by soil and climatic conditions for the growth of tobacco.

## 'PHAROS' WEED KILLER

ONE APPLICATION PREVENTS THE GROWTH OF ALL WEEDS THROUGHOUT THE SEASON

The very concentrated form of the 'Pharos' Weed Killer, 1 part to 60 parts of water being sufficient for dressing 200 to 250 square yards of Paths or Drives, combined with the low figure at which it is sold, makes it absolutely the cheapest in the market.

1	gallon Drum	..	..	2/-	each
1	"	"	..	3/6	"
2	"	"	..	6/6	"
3	"	"	..	9/6	"
5	"	"	..	15/-	"
10	"	"	..	27/6	"
and in 20 and 40 gallon barrels.					

ALL PACKAGES FREE.

**Kelvindale Chemical Co.**  
LOCHBURN, MARYHILL, GLASGOW

Telegrams: 'PHAROS,' GLASGOW.



## For Garden or Greenhouse Use the ALPHA SPRAYER

Do this for the best of all reasons, for you cannot obtain a more efficient sprayer. It contains every good feature and quality. Its range is wider, its force is stronger, its spray is finer than any other. Never gets out of order—always ready to use—easy to handle—in fact, a gardener's essential.

Fitted with reversible spraying arm—the most adaptable sprayer yet invented. The "Alpha" has all the good points, and will more than satisfy your needs. You cannot get a better sprayer, then why put up with an inferior one? Send to the Wholesale Selling agents **ROBINSON BROS., Ltd., West Bromwich, STAFFS.**, for lists and details



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**MODERN CLASSHOUSES** Replete with the latest improvements. Artistic Designs, and best workmanship and materials, combined with utility and economy. Estimates and Plans given for Winter Gardens, Conservatories, and Class-houses of every description . . .

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Full particulars on application

Sample Piece, 12 ft. by 6 ft., 2 3 post free

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Granmer Street—LIVERPOOL

Harbours to Many Domestic Animals.

**RATIN EXTERMINATES**

Ready for use

**RATS & MICE**

2/6  
3/6  
15/-

**RATIN-LABORATORY**  
155, Fenchurch Street, E.C.

Dept. D

## Dublin Wholesale Markets.

A VISIT to the markets at the present time would at once reveal a much diminished supply of seasonable fruit. True, we still have an influx of American apples, but the quantity imported is becoming smaller each week.

Of home-grown apples the supply is practically nil, being confined to a few barrels of Bramley's Seedling, together with some small boxes of selected fruits of the same variety. Australian apples are now coming in to reinforce the American consignments, while to Cape Colony we are indebted for continued supplies of pears, plums, and peaches.

Hot-house grapes are now becoming scarcer, as the Belgian contribution of these fruits is beginning to fail us. The appearance of a few punnets of forced strawberries reminds one of sunny days to come, and a fine return they yield when marketed so early in the season.

Turning from fruit and concentrating our attention on flowers, we find a very different state of matters prevailing. Whereas there is a temporary slackness in the fruit trade, each week reveals new additions to the already long list of spring flowers.

From the Co. Cork there has been sent this month several boxes of Mimosa which has been grown in the open air. These flowers are exported in large quantities from Cannes, a seaport town in the Riviera, and since they arrive in our markets early in the spring, they are great favourites at a time when flowers are scarce. It has been suggested that this Acacia might be grown on a large scale in suitable districts in Ireland for commercial purposes. Narcissi being now procurable from the open, the quantity on sale has increased considerably, yet a steady price is still maintained. Very much appreciated and admired are the Indian Azaleas, which, growing in five-inch pots and exhibiting a wealth of colour, form a dainty and attractive picture. Of pot plants there is now an abundance, and purchasers have a varied assortment from which to make their selection.

From amongst the vegetables, cabbages and onions must be singled out this month for special notice. The former have been very scarce this spring, and judging by the reports from various districts intimating that a large percentage of the crop has "bolted," it may safely be assumed that prices are not likely to fall for some considerable time. Many growers are attributing the "shooting" of the cabbage to the hard frosts which were experienced in early spring, and it is just possible that the check to growth thus occasioned may have been the cause of the trouble. Irish onions have lately been conspicuous by their absence—in fact, buyers are now almost entirely depending on Spanish produce for their supplies of this vegetable. When an

occasional float of Irish onions is put up for auction the bidding is keen, and the seller has good cause to rejoice.

Brussels sprouts and celery are now only forwarded in small quantities, and their season is practically at an end.

The following were the prices:

FRUIT.		From s. d.	To s. d.
Apples—Bramley's Seedling	per barrel	22 0	25 0
" "	per box of 2 doz.	2 0	2 0
American	per barrel	25 0	30 0
Grapes—Gros Colman	per lb.	1 0	2 3
Nectarines (Cape)	per box	4 0	7 0
Peaches do.	do.	3 0	5 6
Pears do.	do.	4 0	5 0
Plums do.	do.	4 0	6 0
Strawberries	per lb.	8 0	10 0

FLOWERS.			
Anemones	per bunch of 12 blooms.	0 2	0 4
Arum Lilies	do.	2 6	3 6
Freesias	do.	0 4	0 6
Hyacinths,	per pot (3 bulbs)	0 6	0 9
Lily of the Valley	per doz. bunches	6 0	7 6
Narcissus	do.	0 8	1 2
Smilax	per spray	0 3	0 4
Tulips	per bunch	0 9	1 0
Wallflowers	do.	0 3	0 4
Violets	per doz. bunches	0 4	1 0

VEGETABLES.			
Artichokes	Jerusalem per float	0 6	1 0
Do.	Globe per doz. heads	2 6	3 6
Beetroot	per float	0 4	0 6
Broccoli	per flasket	3 0	4 0
Cabbages (York)	per load	11 0	22 0
do. (Savoy)	do.	7 6	15 0
Carrots	per doz. bunches	0 7	0 9
Celery	per bunch	0 6	1 3
Cucumbers	per dozen	5 0	7 6
Kale	per doz. heads	0 8	1 0
Leeks	per doz.	0 2	0 4
Lettuce	per doz. heads	0 6	0 9
Mint	per doz. bunches	0 9	1 0
Onions	per float	2 6	3 9
Parsley	per tray	0 6	0 8
Parsnips	per doz.	0 3	0 4
Rhubarb	per doz. bunches	2 0	3 3
Seakale	per doz. crowns	1 0	1 6
Spinach	per tray	0 9	1 0
Thyme	per large bunch	0 6	0 7
Tomatoes	per lb.	0 6	1 6
Turnips	per bunch	0 3	0 4
Do. (Swede)	per cwt.	0 10	1 2

23rd March, 1912.

A. C.

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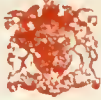
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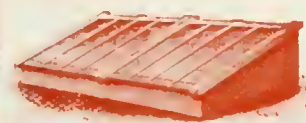


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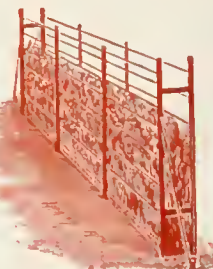
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And subsequent days	. . . . .		£0 1 0

**Gardeners**

desiring forms on which to apply for REDUCED RATES  
should write to . . .

THE HON. SEC., IRISH GARDENERS' ASSOCIATION  
7 UPPER SACKVILLE STREET—————DUBLIN

Or to . . .

THE HON. SEC. FOR IRELAND  
SIR F. W. MOORE

ROYAL BOTANIC GARDENS, GLASNEVIN, DUBLIN

❧, For general information apply to *T. G. W. HENSLOW, Esq., M.A.*  
*Organising Secretary, 7 Victoria Street, LONDON, S.W.*

❧, ❧, TWO CUPS HAVE BEEN PRESENTED BY THE ROYAL  
HORTICULTURAL SOCIETY OF IRELAND

## New Outdoor Chrysanthemums.

**G**ARDEN CHRYSANTHEMUMS have advanced so rapidly of late years that those who have not grown the new ones will be astonished at the fine large blooms on stout, erect stems, the charming and comprehensive range of colours, and the perfect profusion of blossom. They provide armfuls of gay flowers, being absolutely unrivalled for cutting all the autumn months when other garden flowers are fading or gone. They also flourish both in town and country, and require very simple cultivation. The ground should be dug deeply and fairly well manured, planting may now be done, and a space of about two feet allowed between the plants. Place a stout stake to each and tie the shoots as they grow, stopping them once or twice to make the plants bushy, but not after 1st July. During very dry weather water copiously once a week; soot water is good if used when the colour of weak tea, but not over the foliage. Freshly slaked lime dusted around each plant is a good protection from slugs, or crushed oyster shell does as well, as the slugs cannot crawl over it.

It is all important to obtain sturdy, established plants, and these can be obtained from Messrs. Watson & Sons, Clontarf Nurseries, Dublin, who grow thousands in small pots, thereby ensuring results which cannot be obtained from the planting out of rooted cuttings without a ball of soil. Messrs. Watson make a speciality of Outdoor Chrysanthemums, including the new single-flowered varieties, and their new catalogue (post free to any reader of IRISH GARDENING) furnishes full descriptive particulars of the best varieties up to date. A succession of bloom from August onwards may be obtained by planting a selection of Messrs. Watson's Prize Medal varieties.

## Gardeners and Foresters under the Department of Agriculture.

ATTENTION is directed to the announcement in our advertising columns relative to courses of training in Horticulture and Forestry to be held during the year 1912-13 under the Department of Agriculture.

The course in Fruit Growing and General Gardening at the Albert Agricultural College, Glasnevin, affords an excellent opportunity for men who have had some years' experience of garden work to acquire a thorough knowledge of the subject. Students are allowed 14s. to 16s. per week in addition to furnished lodgings while in training. Several gardeners who have taken out this course have been able to secure employment as Horticultural Instructors under the Department.

Applicants for apprenticeships in Forestry are not expected to have had any special knowledge of forestry, but preference is given to those who have had experience of work in woods. Apprentices are allowed 14s. per week with furnished lodgings during the first year of their training.

The Department also offer valuable Scholarships in Horticulture and Forestry, tenable at the Royal College of Science, Dublin. The Scholarships are renewable for three or four years to enable the holders to obtain, free of cost, the most advanced technical and scientific training.

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50 " " " " " "	15 -
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12 " " " " " "	5/-

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**SAFE, SURE & LASTING**

The result of many years' practical experience

**VINE, PLANT AND VEGETABLE MANURE**

1 cwt. 20/-; ½ cwt. 10/-; ¼ cwt. 6/-; 11 lbs. 3/6; 7 lbs. 2/6; Tins, 2/6, 1/- and 6d. Carriage paid on 1 cwt. anywhere

**SPECIAL TOP-DRESSING MANURE**

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No. 1	size	lin	1 pt.	contains sufficient for 400 sq. ft.	..	15	0
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SOLD BY ALL NURSERYMEN AND SEEDSMEN

## Alpines and the Horticultural Show.

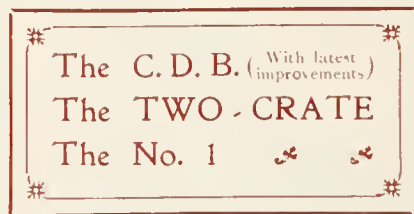
EVERYONE who attended the recent Show at Ballsbridge must have been struck by the paucity of the Alpine exhibits. No doubt the earliness of the season was a difficulty, but there must be some other reason to wholly account for the lack of exhibitors. The prizes offered are most generous, but my opinion is that the regulations governing them are against their success. The Tully Cup for Alpines growing as nearly as possible in a natural condition resembling rockwork. This practically confines the class to those within driving distance of Ballsbridge. The only class therefore open to the country exhibitor is that for which a cup is offered by "Five Lovers of Alpines." I do not know who they may be, but I take it for granted that their intention was to encourage the cultivation of Alpines. This being so, I venture to suggest that the regulations defeat their object. Few rock gardeners who really love their plants are willing to remove their cherished rarities *en bloc* from their home on the rock-work and place them several months before the show in pans where they must remain, and, possibly, be gently forced under glass in order to bring them to "perfection" in time for the show. This is not natural culture, and whereas the aim of most rock gardeners is

to get choice plants to succeed on his rock-work under natural conditions. The result of the regulation was apparent at the present show. There were only two or three exhibitors, and these did not care to risk their choice plants, but panned-up plants like *Erinus alpinus* of no particular interest or difficulty, though even they looked unhappy. Anyone can grow such plants as *Viola gracilis*, *Aubrietias* and *Arabis* by the yard, but surely that is not what is desired by the donors of the cup? If the plants were in pots it would be another matter, for most Alpinists grow their "spares" in pots, especially of their choicer plants, and an exhibit of one, two or more dozen of these would be of interest to the visitor and would, I am certain, be far more acceptable to the exhibitor—his treasures would suffer no harm and could in due course be planted out in their permanent homes. I offer the suggestion with diffidence in the hope that some way or other may be discovered before the next show to increase the public interest in this most fascinating branch of gardening.

The society and generous friends by offering the cups have done much, but the nurserymen could do much more if they realised fully the purposes of a horticultural show. As a rule they aim at large effects, they select whatever plants may be nearest to perfection at the show time and display them lavishly. This, no doubt, is right as far as it goes, for it shows us how well plants can be grown, but it does not go far enough. The interest of the average amateur if it is to be

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maintained must be stimulated by the inclusion of new and rare species—it is immaterial whether they be few of a kind or only moderately grown—the amateur sees them, covets them as something not possessed before, and if he succeeds in growing them better than those he saw exhibited he is all the more encouraged to further try his prowess. Few nurserymen realise this, they are content with a brilliant display which may excite our envy, but does not conduce to large orders as probably in our small way we already grow most of the plants exhibited.

The climate of Ireland is suitable for the cultivation of Alpines, and if the nurserymen excite, as they can, our cupidity for new and choice species, and regulations of the competitions permit their more readily being displayed by the growers, I am convinced that in the near future the entries for these classes in the shows will be numerous and interesting. The present wretched entries can be neither satisfying to promoters nor interesting or instructive to the members and visitors of the society's shows.

MURRAY HORNIBROOK.

## Comments on the Spring Flower Show.

A MEMBER of the Council of the Royal Horticultural Society suggests that it would be a change to have a few critical comments upon the show, so these notes are penned in answer to the request and not in any carping spirit.

At the last two shows many people have been attracted to a stand and have bought flowers after being told a legend that they are real flowers from the Cape which have undergone a certain freezing or other process. It is a surprise to me that the Council of the Royal Horticultural Society permits the sale of artificial flowers under these conditions at their shows, for surely it is damaging to the real flower trade and horticulture, whose interests the society ought to study.

Are Alpine plant lovers so scarce around Dublin? For there was only one competitor in for "The Table of Alpine plants," while there were only two exhibits in Class 4, "Twelve pans of Alpine plants in flower."



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Plants feed with avidity and thrive on the elements of Carmona Fertiliser. Carmona, the guaranteed fertiliser, is all plant food, scientifically compounded. Carmona feeds naturally. One after the other elements of Carmona are released in proper succession and become available, life-giving plant food, which plants absorb and thrive upon.

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**SPECIAL SWEET PEA FERTILISER.** In this splendid fertiliser all the elements are contained to produce first-class blooms in size and colour. It should be applied occasionally during the growth of the vine, and in order to obtain the finest possible blooms it should be fed to the plants more liberally when the bloom buds are showing. Success in Sweet Pea growing is assured to all users of the specially prepared Carmona Sweet Pea Fertiliser.

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## VELVAS LAWN SAND

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Prices—1 cwt. 20/-, ½ cwt. 11/-, 14 lbs. 3/6. Tins, 6d., 1/-, and 2/-.

## £350 in Cash

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The above magnificent sum to be awarded to successful exhibitors at the Great Guaranteed Gardenalities Horticultural Exhibition open to Carmona users only—entry free by coupon from Carmona packages—under one roof at the Botanical Gardens, Edgbaston on 28th and 29th August next will be congregated the finest possible floral and vegetable testimonials to the wonderful feeding properties of Carmona Fertiliser. As a user of Carmona Fertiliser you have as good a chance as the next keen amateur of growing something to perfection, and to win one of the handsome cash prizes into which the £350 is being divided.

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has created a record in insect pest destruction—806 dead insects, including boxes of wire worms, were killed by one application of a "1 in 100 solution" of Clift's Fluid on a patch of land 16 ft. by 3 ft.

These are the most remarkable figures of insect destruction ever published and were achieved in the course of exhaustive experiments conducted by an eminent biologist.

Before you sow or plant, pay the way to success by treating the soil with Clift's Fluid Insecticide and Soil Steriliser. It is absolutely innocuous to plants, and is the finest insecticide on the world for the destruction of all common pests.

Prices—1 gallon 6/-, 1 gallon 3/6, Pint 1/-

A copy of the booklet "Insect and Soil Steriliser" is sent free to any one sufficiently interested in the destruction of soil insect pests to send a dozen typed quarto pages of really interesting figures and facts in connection with three months' experimenting.

**Guaranteed Gardenality No. 2**

## CLIFT'S MANURIAL INSECTICIDE

A powder for the destruction of slugs, wire worms, millipedes, beetle grackles, &c. To be mixed with the soil prior to planting or sowing, or sprinkled lightly raked in and growing point combined insect destroyer and fertiliser of a most durable character. Recommended by professional gardeners and horticultural experts and instructed throughout the Kingdom.

Prices—1 cwt. 10/6, ½ cwt. 6/6, 28 lbs. 4/3, 14 lbs. 3/6, 1 lb. 6d., 1/-, and 2/-



Mrs. Greer, of Curragh Grange, was awarded the first prize for the following pans of *Aubrietia deltoidea cilicica* and *A. Dr. Mules*, *Primula malacoides*, *P. Forresti* and *P. frondosa*, *Saxifraga bathoniensis*, *S. Wallacei*, *Morisia hypogaea*, *Erinus alpinus*, *Gentiana acaulis*, *Iberis Little Gem* and *Viola gracilis* (a good pan). It would have been a keen fight for the first prize if Mrs. Mitchell, of Blackrock, had not been disqualified owing to the over size of the pans. The schedule reads—"Pans not to exceed 12 inches or be under 8 inches (outside measurement)." Pans and pots are not usually measured by outside measurement, but the inside, so this means a competitor ordering an ordinary 12-inch pan gets one 13 inches outside measurement, and would be disqualified. This is just a warning to future competitors, and happened in the case of Mrs. Mitchell. In this exhibit was the finest pan of the twenty-four, a lovely piece of *Androsace Chumbyi*.

Captain Riall secured an easy first in the class for 24 kinds of hardy flowers; his exhibit included the following:—*Lonicera tatarica*, *Cytisus præcox*, *Auricula Alexandra*, *Orobis vernus*, *Muscari Heavenly Blue*, *Amygdalus nanus*, *Coronilla glauca*, *Veronica Lavandiana*, *Erica arborea*, *Crown Imperial*, *Dendromecon rigidum*, *Dielytra spectabilis*, *Waterer's Cherry*, *Fritillaria Meleagris*, *Iris bucharica*, *Pulmonaria virginica*, *Exochorda Alberti macrantha*. The last was almost the only vase which was not well shown, for this *Exochorda* is one of the best, if not the most beautiful, of April flowering shrubs, and to do it justice it should be cut on branches 18 inches or more in length.

Mr. Bewley well deserved his success with the Roses. His Frau Karl Druschki, Mrs. E. Mawley, &c., were magnificent, while in Class 49 a perfect flower of Hugh Dickson sent a certain rose enthusiast into an ecstasy of delight. Mr. Bewley is to be congratulated upon his Roses and also upon a table of *Amaryllis* seedlings of his own raising, but not upon his table of plants, where artistic effect is supposed to be the chief consideration. The judge must have had an "Orchid eye" and must have been caught by the *Dendrobium Dalhousianum* in the centre of the table; but if one stood back a short distance to see the effect, the group looked thin and skimpy and the beauty of the flowers was marred, for the bare native ugliness of the pots dominated the whole group. In this respect the second and third prizes were a beautiful contrast, having a well-clothed, restful and furnished appearance.

In the dinner-table decoration Colonel Claude Cane, of Celbridge, had a most artistic and beautiful arrangement of *Gerberas*, *Gypsophila* and *Carex* leaves, showing what can be done with the Transvaal Daisy and its hybrids. But the prevailing idea seemed to be that the second prize table ought not to have been at all placed in the winning list.

Messrs. Ellis, of Rathgar (city florists), had a display of Ferns, Heaths, &c., which were certainly arranged in a most attractive manner, although many of the plants had a very Covent Garden appearance. This group received a gold medal. On the opposite side was a well-arranged group of mostly hardy flowering shrubs and plants, staged by Messrs. Pennick, and this only

## 'PHAROS' WEED KILLER

ONE APPLICATION PREVENTS THE GROWTH OF ALL WEEDS THROUGHOUT THE SEASON

The very concentrated form of the 'Pharos' Weed Killer, 1 part to 60 parts of water being sufficient for dressing 200 to 250 square yards of Paths or Drives, combined with the low figure at which it is sold, makes it absolutely the cheapest in the market.

1	gallon Drum	.. ..	2/- each
1	" "	.. ..	3/6 "
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3	" "	.. ..	9/6 "
5	" "	.. ..	15/- "
10	" "	.. ..	27/6 "

and in 20 and 40 gallon barrels.

ALL PACKAGES FREE.

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LOCHBURN, MARYHILL, GLASGOW

Telegrams: 'PHAROS,' GLASGOW.

## KILOGRUB

is the one vermicide you can safely rely on to rid your garden of insect pests. You see little of them above ground during the daylight, but at other times they're as busy as such nuisances can be. And underground they're always "at it"—at *your* roots. **KILOGRUB**

## "SETTLES" THEM

at once. It is a dry powder which gives off fumes when dug into the soil, and these fumes retain their efficacy for six months or more, killing every insect within their reach. Only two or three ounces need be used to the square yard. Try a sample tin for 9d.!

Prices, cash with order, carriage paid  
7 lb. ... 2/-      ½ cwt. ... 7/-  
¼ cwt. ... 5/-      1 cwt. ... 11 6

Send for valuable booklet (free) to  
**JOHN PEAK & CO.,**  
(Dept. K), 77, Soho Street, Wigan, Lancs.

received a silver medal, and yet the shrubs and plants of this type are the attraction and feature for Irish gardens!

The Carnations of Messrs. Young & Co., of Cheltenham, were one of the strong features of the show, and attracted great attention; in fact it was one of the best exhibits in this line seen in Dublin for many years.

C. E. BAILL.

## Books and Catalogues.

"THE GUILD OF THE GARDEN LOVERS." By Constance O'Brien. George Routledge & Sons, Ltd. 3s. 6d. net. A book about gardeners, gardens and plants, conceived in quite a novel and interesting way. Four ladies, each of whom loves her garden, feel the need for help and advice with regard to the many problems they find themselves called on to deal with from time to time. Gathered together one day, as is the habit of gardeners, though they may be professionals, they decide to form a guild with powers to add to their number. Thereafter the book consists of a series of letters from the various members to each other, presenting problems and suggesting solutions. Throughout there is much good

counsel, and as the problems are such as occur in gardens of all kinds and sizes, amateurs and beginners will find many a valuable hint, and even the professional may study the solutions with advantage. "An Invalid's Flowers" is a sensible and useful contribution, showing how flowers may be brought to the invalid without that overpowering effect too common in sick rooms. So, too, other letters deal with "Delicate Gardens," "My Neighbours' Gardens," &c., all written in a pleasant, sympathetic way, which will surely appeal to a large number of "garden lovers." The binding and printing are well done, with a coloured frontispiece of white Clematis on the outside cover. The illustrations throughout are not altogether satisfactory, being generally indistinct, seldom showing the true beauty of the flowers. The best is that of self-sown Foxgloves at page 154. The text runs to 240 pages, including an excellent index. Mistakes in spelling are few and not material, as the use of Latin names is discarded as far as possible for English or common names.

"VINES AND VINE CULTURE." By Archibald F. Barron. Published by the *Journal of Horticulture*, 10 Essex Street, Strand, London. Price 5s. This is the fifth edition of this book, revised and enlarged, and probably it will



**ALPHA No. 3**  
Capacity, about 3 quart.  
Price 17/6

**Most Seedsmen stock Alpha Sprayers, and those who don't can get one for you by return**

Now is the time to investigate the merits of Alpha Sprayers. Even now the roses and greenhouse plants want spraying—in a few weeks spraying will be a duty to be regularly discharged—then it is that the Alpha No. 3 will serve you as no other machine can. It holds about three quarts of fluid which it sprays in the form of a fine mist—it is quite free from complicated parts, and reliable to a degree. Once charged with liquid and air it empties itself to the last drop, while the spray is under perfect control at all times.

**ALPHA SPRAYERS (PATENT)**

ALPHAS ARE ENDORSED BY THE ROYAL HORTICULTURAL SOCIETY, AND HAVE WON 18 GOLD AND SILVER MEDALS

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**RATIN EXTERMINATES**  
Ready for use  
**RATS & MICE**  
2/-  
3/-  
**RATIN-LABORATORY**  
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Dept. D 15/-

long remain the standard work on the subject. Every gardener and grape-grower should possess a copy, for on every phase of the subject helpful hints are given, useful alike to the amateur and to the professional. Various chapters deal with Vineries, Training the Vine, Setting and Thinning the Fruit, &c., while chapter xxiii., on "Commercial Grape Culture," is interesting, and also gives a note on how to pack grapes for market. The book is written in expressive, but at the same time clear and concise language.

MESSRS. JOHN RIGBY & SONS, LTD., wire manufacturers, Salford, Manchester, send particulars of their new collapsible spiral Sweet Pea Trainer for Clumps, which looks a serviceable article; and also the spiral wire Pea Trainer for rows of Sweet Peas or Culinary Peas, which can be used at any height required. They say that the Sweet Peas take remarkably well to the "Spiral Trainers," and a row of well-grown Sweet Peas almost completely hides the coils, and the blooms show up to perfection.

MESSRS. CANNELL & SONS, Swanley, Kent, send a copy of their 1912 "Floral Guide." The firm offers novelties in Begonias, Cannas, Chrysanthemums, Dahlias, Pelargoniums, &c. In the catalogue will be found descriptions of all the best florists' flowers for the greenhouse and for planting outside. The firm has specialised in these subjects, consequently their collections are very complete.

## New Pest Destroyers.

ALMOST all those who have gardens are already aware of the outstanding merits of Smith's "Perfect" Weed Killer which is advertised below. However, there are some other garden requisites made by the same firm which have not yet become so well known in Ireland as they deserve. Among these are Smith's "Swift and Sure" Insecticides which has been most successfully used for years at Kew Botanical Gardens. It is one of the best, yet cheapest insecticides for destroying green-fly, scale, mealy bug, and all of the aphides on greenhouse plants, fruit trees, &c. Smith's Mildew Destroyer is a splendid preparation for getting rid of this troublesome fungus from roses, &c. Smith's Lawn Sand is now being very generally used on golf greens, croquet and tennis lawns, &c., for destroying weeds. It kills the latter, but acts as a fertilizer for the grass. Smith's Worm Destroyer and Smith's Summer Shading are also made by the same firm, and it may be taken for granted that all these articles have been tested with satisfactory results before being put on the market. The Irish agent for all of the Mark Smith, Ltd., goods, is Mr. D. M. Watson, Horticultural Chemist, 61 Sth. Great George's Street, Dublin, who will be glad to give full particulars to all enquirers. Smith's Weed Killer should be used this month so as to ensure clean walks for the remainder of the season.

## SMITH'S "PERFECT" PATENT POWDER AND LIQUID . . .

# WEED KILLER

**MARVELLOUS INVENTION!**

**MOST EFFECTIVE!**

Nothing like it ever seen before. Soluble in Cold Water

### Prices of "Perfect" Weed Killer (Powder)

ALL TINS FREE

NO RETURN EMPTIES

1 Tin, sufficient to make	25 gallons	£0	1	9	
4 Tins	100 "	0	6	6	
8 Tins	200 "	0	12	6	Box 3d. extra
12 Tins	300 "	0	17	0	4d. "
20 Tins	500 "	1	7	0	6d. "
10 Tins	1,000 "	2	8	0	1s. "

Carriage Paid on 8 Tins to Stations in Ireland.

### Prices of "Perfect" Weed Killer (Liquid)

1 gallon to make 25 gallons for use. (Also supplied Double Strength)

	s.	d.		s.	d.		s.	d.	
1 gallon	1	9	5 gallons	8	0	10 gallons	1	2	0
2 "	3	0	6 "	9	0	18 "	1	5	0
3 "	5	0	8 "	12	6	20 "	1	7	0
1 "	6	6	10 "	14	0	40 "	2	8	0
			12 "	17	0				

DRUMS CHARGED EXTRA and allowed for when returned

Carriage Paid on 8 gallons to Stations in Ireland

4 gallons when mixed will cover an area of about 400 square yards

THE GARDENS,  
THEYDON PRIORY,  
THEYDON, BOIS.

Your Weed Killer last year gave great satisfaction. I tried with Liquid and Powder and was well satisfied with the results of both; but as there are no empties to return with the Powder, it is with me preferable to the Liquid. I shall recommend it to all I can. C. WALSH.

IRISH AGENT—

NOTICE.—These Preparations are Poisonous.

Sole Proprietors, MARK SMITH, Ltd

**D. M. WATSON, M.P.S.,**

Horticultural  
Chemist

**61 South Great George's Street**

**DUBLIN**

Telephone 1071



## Shows.

THE eighth annual exhibition of the Kilkenny Horticultural Society will be held in the Court House, Kilkenny, on Thursday, August 15th. Schedules may be obtained from Miss F. E. Butler, Hon. Sec., Lavinstown House, Kilkenny. Entries and fees will be received not later than August 10th.

THE Banbridge Horticultural and Agricultural Society holds its annual show in the Farming Society's grounds, Ballydown Road, on Thursday, August 8th. Special prizes are offered by the Irish Peasant Society, Alex. Dickson & Sons, F. E. Smith & Co., and E. A. White, Ltd., Kent. Prize schedules may be obtained on application to W. Bradford, jun., Secretary, Banbridge.

## Dublin Wholesale Markets.

WITH the exception of a few dozen of Bramley's Seedling, which were sold at a very satisfactory price, there were practically no Irish apples in the market during the latter part of this month. The breach has been filled by apples which have just arrived from Western Australia. These are packed in cases which hold one bushel of fruit, and may weigh from 38 to 42 lbs. The three main varieties which are imported are Dunn's Seedling, Cleopatra, and Jonathan. The first two are large and rather flat apples, very firm in the flesh, and excellent cookers. For dessert purposes they are preferred by many to the more handsome

Jonathan, which when not too ripe has a crisp flavour, and does not possess the meanness so often associated with foreign apples. Melons are a new addition to the already long list of fruits which are being exported from the Cape. Strawberries are becoming more plentiful, and prices are correspondingly lower. The warm, sunny weather of this month has brought on pot strawberries very quickly, and no trouble has been experienced in ripening the fruit.

The number of varieties of flowers increase with the lengthening days, and it would occupy too much space to enumerate those which are now on sale. The demand still continues to be brisk for flowers having a special decorative value, but the commoner spring flowers are a drug on the market and realise very poor prices.

Vegetables which have been regular occupants of the salesmen's stands during the winter and spring months are now disappearing from view, while the summer vegetables are coming in to take their place. Celery, beetroot, and parsnips are now almost finished for the season; but the presence of lettuce, cucumbers, radishes, peas, and beans ensures an undiminished supply of seasonable vegetables. Some of these are as yet only arriving in small quantities from France and the Channel Islands, but the supply is daily increasing. The first consignment of new potatoes from Teneriffe came to hand early this month.

Cabbages now show a slight improvement in quality, while prices still remain high. Broccoli, being at the height of their season, are extremely plentiful, and only for first grade lots is a profitable price obtained. Large quantities of these last two vegetables are being

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FRUIT.		From s. d.	To s. d.
Apples—Bramley's Seedling	per doz. .	2 6	3 0
do. Jonathan's	per case .	15 0	18 0
do. Dunn's Seedling	do. .	16 0	20 0
Grapes—Gros Colman	per lb. .	3 0	3 6
Melons (Cape)	each .	1 0	1 6
Pears do.	per case .	4 6	5 6
Pine Apples	each .	2 6	5 0
Plums (Cape)	per case .	8 0	10 0
Strawberries	per lb. .	3 0	5 0

FLOWERS.			
Anemones	per doz. bunches	0 6	0 8
Arum Lilies	per doz. blooms	2 6	4 0
Carnations	do. .	1 6	2 0
Freeseias	per doz. bunches	1 3	1 6
Iris (Spanish)	do. .	8 0	10 6
Lilac, White	per bunch .	1 0	1 6
Lilium auratum	do. .	3 6	5 0
Lily of the Valley	per doz. bunches	6 0	8 6
Narcissus	do. .	0 8	1 6
Roses	per doz. blooms	1 0	2 0

Sweet Peas  
Violets  
Wallflowers

FLOWERS—con.		From s. d.	To s. d.
per doz. bunches		2 0	3 0
do. .		0 6	1 3
do. .		2 0	2 6

VEGETABLES.			
Artichokes (Globe)	per doz. heads .	2 6	3 6
do. (Jerusalem)	per float .	1 0	1 3
Asparagus	per bundle .	2 0	3 6
Beans (French)	per lb. .	0 8	1 0
Beetroot	per float .	0 9	1 0
Broccoli	per flasket .	2 0	3 6
Cabbages (York)	per load .	14 0	20 0
Carrots	per doz. bunches	0 9	1 0
Cucumbers	per dozen .	3 6	5 0
Leeks	do. .	0 3	0 4
Lettuce	per tray .	1 0	1 9
Mint	per doz. bunches	0 9	1 0
Mushrooms	per lb. .	0 8	1 0
Onions	per float .	2 6	3 0
Parsley	per tray .	0 4	0 8
Peas	per lb. .	1 0	2 0
Radishes	per bunch .	0 6	0 9
Rhubarb	per doz. bunches	1 0	2 3
Spinach	per tray .	1 6	1 9
Scallions	per bunch .	0 6	0 10
Seakale	per doz. crowns	1 0	1 9
Turnips (Swede)	per cwt. .	1 0	1 4

23rd April, 1912.

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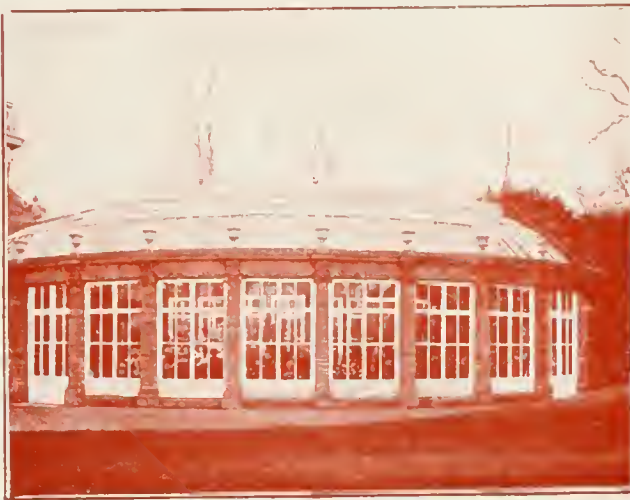
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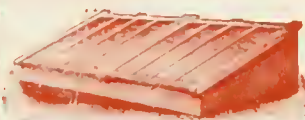
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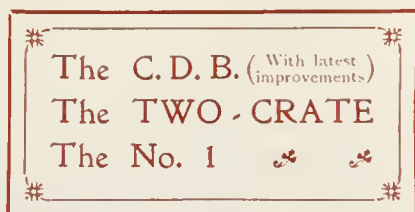
Note these, for you may want them. "Eradicide" guaranteed cent. per cent. Weed Killer. Sure and certain. "Velvas Lawn Sand"—just the sand needed. Robinson's send on all details, lists, &c., free of charge, and also include as a gift two valuable gardening books, which you will appreciate. (1) Robinson's "Guaranteed Gardenalities" Booklet, and (2) Robinson's "Garden Enemies" Booklet. These are brimming over with serviceable gardening hints and advice. Address your P.C. or letter to—

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## Books and Catalogues.

"THE JOURNAL OF THE BOARD OF AGRICULTURE."—The May issue contains as usual much that is interesting to the gardener and farmer. To gardeners the most interesting article is that devoted to diseases of Raspberry and Loganberry. Beekeepers will find an exhaustive report on the Isle of Wight Bee Disease in a supplement published separately at the price of one shilling, post free.

We have also received Leaflet No. 261 of the Board of Agriculture and Fisheries, explaining the origin and working of the Seawby Agricultural Credit Society as an example of such a society.

MESSRS. WM. WATSON & SONS, LTD., Clontarf, send their annual list of summer bedding plants. As usual it is replete in all that is best for this class of work, and the prices are reasonable. Among other things offered are specially good strains of Antirrhinums, Asters, Begonias, &c. A good selection of conservatory and house plants is also a feature, as well as vegetable plants, garden sundries, &c. Messrs. Watson are specialists in the plants offered, and are able to supply a large assortment.

## The Editor's Table.

MR. G. SMITH, Newry, sends good flowering specimens of Ribes lacustre and Cotoneaster reflexa. Both these deciduous shrubs are very ornamental. Ribes lacustre is a native of North America, and has very prickly branches, gooseberry-like leaves, and long racemes of yellowish and red flowers. Cotoneaster reflexa is from China, and looks well grown as a bush or a standard. The long sprays of white flowers are

# 'PHAROS' WEED KILLER

ONE APPLICATION PREVENTS THE GROWTH OF ALL WEEDS THROUGHOUT THE SEASON

The very concentrated form of the 'Pharos' Weed Killer, 1 part to 60 parts of water being sufficient for dressing 200 to 250 square yards of Paths or Drives, combined with the low figure at which it is sold, makes it absolutely the cheapest in the market.

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100 Herbaceous, named . . .	for 30/-
50 " " " " " " " "	15/-
25 Roses without names . . .	8/6
12 " " " " " " " "	5/-

Send your enquiries, quotation by return.

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Indispensable in the Garden

**SAFE, SURE & LASTING**

The result of many years' practical experience

**VINE, PLANT AND VEGETABLE MANURE**

1 cwt. 20/-; ½ cwt. 10/-; ¼ cwt. 6/-; 14 lbs. 3/6; 7 lbs. 2/6; Tins, 2/6, 1/- and 6d. Carriage paid on 1 cwt. anywhere

**SPECIAL TOP-DRESSING MANURE**

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Kills all Greenhouse insects without injury to plants

No. 1 size Tin - 1 pt. contains sufficient for 40,000 cubic ft. each	15	4.
No. 2 size Tin - 1 pint	20,000	7
No. 3 size Bot. - 6 oz.	15,000	4
No. 4 size Bot. - 4 oz.	8,000	3
No. 4 1/2 size Bot. - 2 oz. new size	4,000	1
No. 5 size Bot. - 1 oz. "sample"	2,000	0

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## FUMIGATING LAMPS

1s. each, for 5,000 cubic feet

## GOW'S LAWN SAND

DAISY ERAICATOR

28 lbs. (to dress 100 square yds.) 6 6  
1/2 cwt. 11/-, 1 cwt. keg 21/-, and in decorated tins

Use Gow's Tobacco Powder and Quassia Extract  
6d., 1/- and 2 6, decorated tins.

## COW'S TREE WASH

FOR FRUIT TREES

A perfect destroyer of Woolly Aphis, Codlin, Maggot, Scales, Red Spiders and their Eggs, Apple Suckers, Lichen Moss, and Decayed Bark. Apply in Winter when trees are dormant

PRICES

1 gallon to make 20 gallons ... 5/- per gallon  
5 " " 10 " " 23/- per drum

ASK YOUR BREXDMAN FOR ABOVE

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THE CHEAPEST INSECTICIDE OF THE DAY

# "NIQUAS"

(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use. It can be applied with syringe or pump, or used for dipping.

PRICES Half-pint, 1/-; pint, 1 6; quart, 2 6; half gallon, 4 -  
gallon, 7 6; five gallons, 25 -; ten gallons, 40 -  
1 gallon sufficient for 100 gallons of water

## STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers.

Analysis on Application

Sold in Tins, 1-, 2 6, 5 6 each, and in Kegs, well secured, to prevent loss through exposure, 28 lbs., 7 6; 37 lbs., 12 6; 112 lbs., 20 -

## CORRY'S SPECIAL

## Chrysanthemum Manure

Sold in Tins, 1-, 2 6, 5 6, and Bags, 1/2 cwt., 10 6; 1 cwt., 18 -;  
1 cwt., 32 -

For Fumigating in Greenhouses.

## "LETHORION"

## Improved Metal Cones

Registered No. 62,507

To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1, for small frames of 100 to 600 cubic feet, 6d. each; Cone No. 2, 8d. each, 1,000 to 1,200 cubic feet; No. 3, 1- each, 2,000 to 2,500 cubic feet.

## Fowler's Lawn Sand

This preparation is for destroying Daisies and other weeds on lawns, and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 1-, 2 6, and 6 - each; Kegs, 1/2 cwt., 8 6; 1 cwt., 16 -;  
1 cwt., 30 -

## ELLIOTT'S

## 'Summer Cloud' Shading

Registered Trade Mark No. 14,629.

(The only genuine original and improved article)

For Greenhouses. A pleasant green shade is given to the glass.

In packets, 1- for 100 feet of glass, and 2 6 each for 200 feet

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## LONDON

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WHEN  
CANADA

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beautiful, but the smell is anything but pleasant. Mr. Smith also sends charming sprays of *Lonicera syringantha*. This is a Chinese species, producing long, slender branches which in May are clothed with dainty, sweet-scented pink flowers, and small, ovate, lanceolate leaves about half an inch long by a quarter of an inch broad.

### Notes.

With's Chemical Manure Co., Hereford, is an old established firm which makes a speciality of manures for the garden and greenhouse. G. H. With, F.C.S., sends a pamphlet entitled "How to Increase the Fruits of the Earth." The gardener nowadays looks for the help of the agricultural chemist to guide him in feeding his plants and giving them their proper kind of foods. By the aid of analytical chemists, With's have prepared special manures for fruit, cucumbers, tomatoes, vines, chrysanthemums, &c., and for general use With's plant food may be recommended.

At the Royal International Horticultural Exhibition, London, May 22-30, which was opened by their Majesties the King and Queen, Messrs. Webb & Sons, Seedsmen by Royal Appointment, of Wordsley, Stourbridge, were awarded a large Gold Medal for a really magnificent display of their floral specialities raised from seed, representing selections of *Calceolarias*, *Cineraria Stellata*, *Gloxinias*, *Schizanthus*, *Primula Obconica*, *Clarkia*, *Petunia*, &c., of exceptional merit, the plants being stamped with the mark of good cultivation, and including a wide range of rich and exquisitely beautiful shades. Enormous banks and groups of brilliantly coloured bloom, tastefully furnished with palms and ferns, and bordered with lovely lawn grasses, presented a fine appearance, and H. M. the King subjected this striking exhibit to a critical and interested inspection.

## KILOGRUB

is the one vermicide you can safely rely on to rid your garden of insect pests. You see little of them above ground during the daylight, but at other times they're as busy as such nuisances can be. And underground they're always "at it"—at *your* roots. **KILOGRUB**

## "SETTLES" THEM

at once. It is a dry powder which gives off fumes when dug into the soil, and these fumes retain their efficacy for six months or more, killing every insect within their reach. Only two or three ounces need be used to the square yard. Try a sample tin for 9d.!

Prices, cash with order, carriage paid

7 lb. ...	2/-	½ cwt. ...	7/-
½ cwt. ...	5/-	1 cwt. ...	11/6

Send for valuable booklet (free) to

**JOHN PEAK & CO.,**

(Dept. K), 77, Soho Street, Wigan, Lancs.

**KILOGRUB** can be obtained from all leading Seedsmen in the U.K.

## SMITH'S "PERFECT" PATENT POWDER AND LIQUID . . .

# WEED KILLER

**MARVELLOUS INVENTION!**

**MOST EFFECTIVE!**

Nothing like it ever seen before. Soluble in Cold Water

### Prices of "Perfect" Weed Killer (Powder)

ALL TINS FREE NO RETURN EMPTIES

1 Tin, sufficient to make	25 gallons	£0	1	9
4 Tins .. .. .	100 ..	0	0	6
8 Tins .. .. .	200 ..	0	12	6 Box 3d. extra
12 Tins .. .. .	300 ..	0	17	0 .. 4d. ..
20 Tins .. .. .	500 ..	1	7	0 .. 6d. ..
10 Tins .. .. .	1,000 ..	2	8	0 .. 1s. ..

Carriage Paid on 8 Tins to Stations in Ireland.

### Prices of "Perfect" Weed Killer (Liquid)

1 gallon to make 25 gallons for use. (Also supplied Double Strength)

	s.	d.		s.	d.		s.	d.
1 gallon	1	9	5 gallons	8	0	10 gallons	1	2
2 ..	3	6	6 ..	9	6	18 ..	1	5
3 ..	5	0	8 ..	12	0	20 ..	1	7
4 ..	6	6	10 ..	14	0	40 ..	2	8
			12 ..	17	0			

DRUMS CHARGED EXTRA and allowed for when returned

Carriage Paid on 8 gallons to Stations in Ireland

4 gallons when mixed will cover an area of about 400 square yards

THE GARDENS,  
THEYDON PRIORY,  
THEYDON, BOIS.

Your Weed Killer last year gave great satisfaction. I tried with Liquid and Powder and was well satisfied with the results of both; but as there are no empties to return with the Powder, it is with me preferable to the Liquid. I shall recommend it to all I can. C. WALSH.

IRISH AGENT

NOTICE.—These Preparations are Poisonous.

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Send to the Wholesale Selling Agents—

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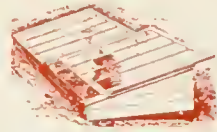


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## UNIQUE SEED CATALOGUE

Amateur growers of rare and choice alpine and herbaceous perennials, should get

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which describes about 3,000 distinct species and varieties of Flower Seeds (including an up-to-date Collection of Sweet Peas), also a fine assortment of the choicest Vegetable Seeds. Their Catalogue, not being illustrated, does not attract the superficial lover of flowers, but it is much appreciated by the scientific and more advanced class of amateurs, and, moreover, the ridiculously high prices of some firms are avoided, and everything is offered at the lowest possible figure consistent with highest quality. Post Free on Application

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### SLUGS!

### SLUGS!

**"SANITAS" POWDER** will rid your Garden of  
SLUGS

Write for Pamphlet and Free Sample, with full instructions

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### STAKE PEAS

### OR OTHER CLIMBERS

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NOTHING else gives equal satisfaction. GEO. HERBERT (an authority on Sweet Peas), says:—"It is the best support I have ever seen." Much superior to Sticks or Wire.

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Sample Piece, 12 ft. by 6 ft., 23 post free

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## FOR A SPRING GARDEN

### DAFFODILS

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### NARCISSI

Are indispensable, and are cheapest and best straight from the grower. As grown in Ireland they have no superiors. Send for list of the old and newer kinds—with names of ten, twenty and fifty best kinds, to:

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KILMANOCK, CAMPILE via Waterford

Cheap Quotations for the commoner kinds in quantities, for naturalisation by Walks and in Woodlands. CUT BLOOMS WHEN IN SEASON

Telegrams—"Hamilton, Kilmanock, Campile"

## Dublin Wholesale Markets.

THE merry month of May brings to us once again the first of our out-door fruits—the gooseberry.

At present green gooseberries are being marketed only in moderate quantities, with the result that good prices have been secured in most cases. Some growers do not seem to realise that to obtain the top price it is just as necessary to pay as much attention to gooseberries as to apples in the selecting, grading, and manner of marketing the fruit. At this period of the year it is advisable, and certainly more profitable in the end, to go over all the bushes and select only the largest and cleanest fruit instead of pulling it indiscriminately. Then follows the question as to how they should be packed, having due regard to the appearance of the fruit and to economy in the packing. Small chip baskets holding about four quarts of fruit look very neat, and attract a wider circle of buyers than the half bushel boxes, which often contain carelessly picked fruit with a fair admixture of leaves. English grown melons are now obtainable at reasonable prices, while small supplies of peaches from the same source are supplementing the arrivals from Belgium. The first consignment of cherries from the south of France arrived about the middle of the month. These are packed in round hampers which hold about half a bushel of fruit. Strawberries are now becoming much more plentiful, a considerable quantity of this fruit being now supplied from the home growers. Many are the varieties of cut flowers which are now on sale, with the result that prices show an all round decline. A few favourites, which are in good demand in their season, are the Carnation, Gladiolus, Iris, Lily of the Valley, and Rose, and these are almost always sure of securing a fair price. A good trade seems to be done in small lots of bedding plants which are now being auctioned in the markets. Purchasers are not lacking for the ever popular Geraniums, Violas, Calceolarias, and some of the commoner hardy annuals. At the present time there is a plentiful supply of decorative plants of many kinds. Small hardy Ferns and young plants of *Aralia Sieboldi* always find a ready sale, while among the flowering subjects *Marguerites*, *Geraniums* and *Spiræas* are held in similar favour. In the vegetable section a considerable falling off is noticeable in the quantity of broccoli which is now being forwarded to market. This vegetable has proved a good friend this season to those who were fortunate enough to have grown it in quantity. Earlier in the month selected heads realised from 6s. to 7s. a flasket, a price which is not very often obtained. Cabbage, the scarcity of which may have caused the increased value of broccoli, is now more plentiful and of much better quality, but as yet it shows no sign of any diminution in price. The following were the prices:

	FRUIT.	From		To	
		s.	d.	s.	d.
Cherries—French	per $\frac{1}{2}$ bushel	8	0	10	0
Gooseberries	do.	5	0	7	6
Do.	per basket	1	6	2	3
Grapes—English	per lb.	2	6	4	0
Melons—English	each	1	6	3	6
Peaches	per doz.	6	0	15	0
Pears—Australian	per case	9	0	14	0
Strawberries	per lb.	1	6	3	0

## FLOWERS.

Anemones—St. Brigid	per doz. bunches	1	0	2	0
Carnations—American	per doz. blooms	1	0	1	9
Gladiolus—The Bride	per doz. bunches	7	6	10	0
Iris (Spanish)	do.	6	0	8	6
Lilium auratum	per bunch	3	6	4	0
do. lancifolium	do.	1	9	2	6
Lily of the Valley	per doz. bunches	4	0	5	6
Pæonies	per doz. blooms	1	0	1	9
Roses	do.	0	9	2	0
Spiræas	per doz. bunches	3	0	4	6
Sweet Peas	do.	3	6	4	0
Solomon's Seal	per bunch	0	6	0	9

## VEGETABLES.

Artichokes (Globe)	per doz.	2	0	2	6
Asparagus	per bundle	1	0	1	6
Beans (French)	per lb.	0	8	0	10
Broccoli	per flasket	3	6	6	6
Cabbages (York)	per load	15	0	24	0
Carrots	per doz. bunches	0	8	1	0
Cucumbers	per dozen	2	6	4	0
Lettuce	per tray of 1 doz.	0	6	0	9
Mint	per doz. bunches	0	9	1	3
Mushrooms	per lb.	0	2	0	6
Parsley	per tray	0	3	0	9
Peas	per lb.	0	6	0	10
Radishes	per doz. bunches	1	0	1	6
Rhubarb	do.	1	3	2	3
Sage	do.	0	8	0	10
Scallions	per bunch	0	6	0	9
Spinach	per tray	0	6	0	9
Tomatoes (English)	per lb.	2	0	3	6
Turnips	per bunch	0	2	0	4

28th May, 1912.

A. C.

## BENTLEY'S WEED DESTROYERS

Utterly annihilate Weeds, Moss, Dandelions, and all other weeds on Garden Walks, Carriage Drives, &c.

Have the largest sale in the United Kingdom!

Are the most powerful manufactured!

Are the most permanent in effect!

LIQUID (Poison)		DOUBLE STRENGTH (1 to 50)	
3 Gallons, to make	153 Gallons	...	£0 10 0
6 "	306 Gallons	...	0 18 0
12 "	612 Gallons	...	1 13 0
20 "	1,020 Gallons	...	2 7 6
40 "	2,040 Gallons	...	4 10 0

SPECIAL CONCENTRATED		STRENGTH (1 to 80)	
3 Gallons, to make	243 Gallons	...	£0 11 6
6 "	486 Gallons	...	1 6 0
12 "	972 Gallons	...	2 6 0
24 "	1,944 Gallons	...	4 7 6

## BENTLEY'S DAISY KILLER (LAWN SAND)

Completely eradicates Daisies, Moss, and other weeds which infest Lawns, Tennis Courts, Croquet Grounds, Bowling Greens, Golf Courses, &c., and afterwards improves the tone and colour of the sward.

1 ton, £19; 10 cwt., £9 15; 5 cwt., £6; 1 cwt., £1 1s. 6d. less, 12s. Tins, 5s., 2s. 6d., and 1s. each.

Carriage Paid on 5 orders and upwards

WHOLESALE MANUFACTURERS

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On all Fruit, Flowers, Vegetables

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28 lbs., 2/6; 56 lbs., 5/-; Per cwt., 10/-

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AGENTS WANTED

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IS CERTAIN DEATH to Leaf-mining Maggots, Mealy Bug and all Pests infesting plants under glass, &c. Simple to use, no apparatus required. In Boxes to fumigate 1,000 cubic feet, 6d.; 10,000 cubic feet, 3s. 6d. each. Obtained of Seedsmen and Florists; if unobtainable apply direct—

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Wholesale Horticultural Sundriesmen,  
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Trade Terms and Catalogue of Sundries upon receipt of business card



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Classes of Competition include:—Farm and Garden Produce, Home Industries (comprising Needlework, Home Baking, Painting, Photography, and Decorative Art), Writing Competitions for School Children.

Entries close on 1st August.

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BANBRIDGE

BIRDS SCARED.—Rotless Tanned Netting. Small Mesh. Very Superior. As supplied by us to the Royal Gardens. Satisfaction guaranteed or cash refunded. 100 by 1 yd., 3/0; 2 yds., 7/6; 3 yds., 11/3; 4 yds., 15/-; 50 by 6 yds., 11/3; 25 by 8 yds., 7/6. Carriage Paid. Any length and width supplied. Cheaper quality, 50 yds., 1/-.—POTTER BROS., Dept. T, Frankwell Works, SHREWSBURY. Estd. 57 years.

LAWN MOWERS.—5 Blades. Highly Finished. Easy Running. Acknowledged the best cheap Mower obtainable. Only 12/0. GARDEN HOSE, 90 ft., 9/11; WATER BARROWS, 12 Galls., 23/3; WOOD BARROWS, 15/6; GARDEN SEATS, 10/6; CHAIRS, 1/9; TENTS, 22/-; BELL TENTS, 35/-. Lists Free.—POTTER BROS., Dept. T, Frankwell Works, SHREWSBURY. Estd. 57 years.

## WINDOW GLASS

Polished Plate for Shop Windows.

Horticultural Glass at Lowest Rates

## DEATH TO THE WEEDS!

HOYTE'S WEED KILLER.

Strongly Recommended for the Destruction of Weeds, &c.

Price, 2s. per gallon; 5 gallons, 1s. 6d. per gallon; 10 gallons, 1s. 3d. per gallon; Original 40-gallon casks, 1s. per gallon.

HOYTE & SON, The City of Dublin Drug Hall,  
17 LOWER SACKVILLE STREET, DUBLIN  
Please mention this Paper

## PURE ICHTHEMIC GUANO.

The Most Reliable, The Richest Food, and the Most Natural Fertiliser, Supplied in Tins and Bags, 6d. to 20/-. Carriage paid on quantities of 25 lbs. and upwards

### FAME'S FERTILISER.

Swift, Safe, and Sure.

Supplied in Tins and Bags, 6d. to 20/-. Carriage paid on quantities of 25 lbs. and upwards.

Ask your Seedsman

Sole Proprietors and Manufacturers,

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IPSWICH, England

Agency Depots—Wellington, N.Z.; Durban, S.A.  
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(AFFILIATED WITH THE ROYAL HORTICULTURAL SOCIETY OF IRELAND)

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WILL BE HELD IN THE

Paddock of Leopardstown Race Course

On FRIDAY, 5th JULY, 1912

Challenge Cups and Valuable Prizes in Classes for Flowers, Fruit and Vegetables

SCHEDULE OF PRIZES AND FULL  
PARTICULARS CAN BE HAD FROM

The Hon. Secretary  
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Under the Patronage  
of  
Their Excellencies



The Lord Lieutenant  
and  
Countess of Aberdeen

## KINGSTOWN FLOWER SHOW

PEOPLE'S PARK . . . . .

WEDNESDAY, 31st JULY, 1912

VALUABLE PRIZES IN CLASSES FOR . . .

Flowers, Fruit and Vegetables. Cakes and Honey

— SPECIAL —  
COTTAGERS' SECTION

— SEVERAL —  
AMATEUR CLASSES



SCHEDULE OF PRIZES AND FULL  
PARTICULARS FROM—

The Secretary  
Kingstown Horticultural Society  
Technical School  
KINGSTOWN

Entries close 24th July, 1912

## North Kildare Horticultural Society

### SHOW OF FLOWERS, VEGETABLES, FRUIT — AND HOME INDUSTRIES —

Will be held by kind permission of W. Mooney, Esq., J.P.

AT LEIXLIP CASTLE, LEIXLIP

On Wednesday, 24th July, 1912

All Exhibits must reach Show Ground by 10 a.m.

Gates open 1 o'clock, p.m.

Exhibition closes 6 p.m.

Admission, 6d. Children, 3d.

Admission by Front Entrance Gate

BAND OF THE DUBLIN METROPOLITAN POLICE

SPORTS, DONKEY RACES, &c.  
DANCING COMPETITIONS

(Open to all Kildare)

Entrance Fee, 6d. (Entries, which close Day  
before Show, received by Mr. Edward Kelly,  
Celbridge)

	1st Prize	2nd Prize
IRISH JIG . . . . .	7 6	3 6
IRISH REEL . . . . .	7 6	3 6
HORNPIPE . . . . .	7 6	3 6

### Refreshments on Grounds

Leixlip Station about Half a Mile, and Lucan Train  
way Terminus One Mile from Show Ground

## Co. Clare Horticultural Society

### SUMMER SHOW

WILL BE HELD IN THE

COURT HOUSE — ENNIS

On 17th JULY, 1912

Entries close 10th July. Schedules and all particulars from  
H. BILL, Hon. Sec., LIFFORD, ENNIS

Classes for Cottagers, Amateurs and Professionals

### SPECIALS

Sydenham's for Sweet Peas

Jones' for Sweet Peas

Wm. Watson & Sons' for Cut Flowers

Reamsbottom's for Herbaceous Flowers

Special Railway facilities arranged

# IRISH ROSE & FLORAL SOCIETY

## ANNUAL EXHIBITION

TO BE HELD IN CONJUNCTION WITH

# The Provincial Show OF THE National Rose Society

IN

BOTANIC GARDENS PARK, BELFAST

FRIDAY, 19th JULY, 1912

THE GREATEST FLOWER SHOW EVER HELD IN IRELAND

EXCURSION FARES TO BELFAST ON PRINCIPAL RAILWAYS

Schedules and particulars from the Hon. Secretary—

H. P. PINKERTON, 18 Victoria Street, Belfast

## LUCAN, SAGGART & CLONDALKIN FLOWER SHOW

WILL BE HELD IN

CORKAGH DEMESNE, CLONDALKIN

By kind permission of Colonel Finlay, D.L.

:: On SATURDAY, JULY 20th, 1912 ::

Show opens at 1 o'clock, and closes at 6 o'clock



### GYMKHANA

Donkey Polo. Children's Races. Best Irish Jig Double, open  
Various Sports. Children's Dances to Residents in the Show  
Putting Competition. Districts.

BAND OF ROYAL IRISH CONSTABULARY

(By kind permission of Commandant and Officers)

Visitors conducted through the CORKAGH GARDENS at  
various times during the afternoon

REFRESHMENTS ON THE GROUNDS

ADMISSION 6d. CHILDREN 3d.

Trains leave Kingsbridge for Clondalkin at 2, 3, 4 o'clock

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CORONATION

. . . ETHEL . . .

. . . AND FLAME . . .

Carnations and other Florists' Flowers of  
all descriptions

Catalogues on application to

**CHARLES TURNER,**

The Royal Nurseries—SLOUGH

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Were awarded a  
Silver Medal and  
Diploma of Honour  
at the recent Royal  
International Horti-  
cultural Exhibition.

May we send you full particulars with illustrations?

Post free on application.

NOTE this New Book! It is just what will please you.

### THE STORY OF MY ROCK GARDEN

By REGINALD MALBY. Cloth 6d., 2/6 net.

The Author of this new book on an increasingly popular phase of gardening has turned a small suburban villa garden within eight miles of the Bank of England into a paradise of those choice floral gems whose natural habitat is the pure sun-flooded air of the Alps. Mr. Malby has achieved success as a result of his own efforts, and adorns his narrative with a series of photographic reproductions illustrating the flowers growing in his own garden. In addition there are four coloured plates.

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Make perfect Golf Greens, Tennis Courts  
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 Recent awards, four Gold Medals, five  
 Silver Medals.  
 Motor Lawn Mowers made in various sizes  
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 The IDEAL SOIL FUMIGANT  
 The Best and Cheapest Remedy for WIREWORMS,  
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**V2 FLUID**  
 A Nicotine Spray Fluid for Summer Use  
 For the destruction of  
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 SAVES WEARY WEEDING,  
 50 gallons of mixed solution will kill all  
 weeds on 200 square yards of paths, &c.

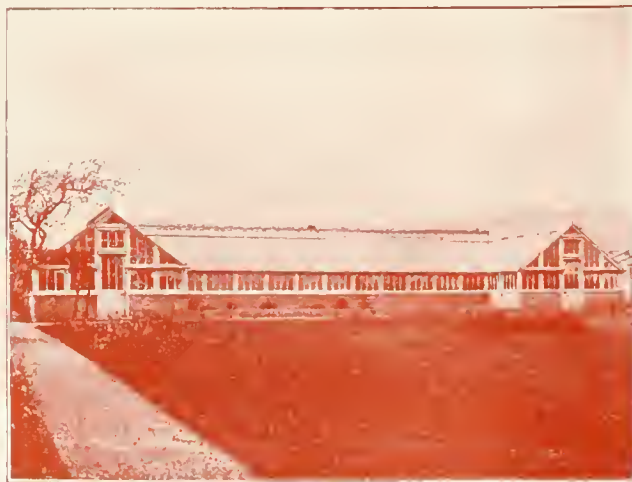


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 1/- tin for 12 galls. solution } Free Tins  
 19 " 25 " " and  
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 1 gallon - 2/- - drum free  
 1 " - 3/6 - " 9d. extra  
 2 " - 6/8 - " 1/6 "  
 5 " - 14/- - " 2/6 "  
 10 " - 25/6 - cask 5/- "

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 EUREKA' Insecticide, Lawn Sand, Hellebore Powder, Bordeaux  
 Mixture, Worm Killer, Hayward's Summer Shade, &c.  
 SOLD BY AGENTS,  
 Full list with booklet, "Chemistry in Garden and Greenhouse," sent  
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**TOMLINSON & HAYWARD, Ltd., LINCOLN.**

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Supply all Classes of  
 HORTICULTURAL  
 BUILDINGS  
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 HOT WATER  
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☞ Please write for Catalogue illustrating this and other Greenhouses.

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Replete with the most modern improvements. Elegant designs, sound construction, exceptional durability, combined with utility and economy

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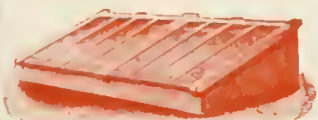
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In great variety, always in stock

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Skilfully, quickly, and cheaply, for any purpose requiring illustrations, but, as we have been blockmakers to "Irish Gardening" since its first issue, we are in a very good position to handle all Horticultural subjects, for Seedsmen's Catalogues and Advertisements

**IRISH PHOTO ENGRAVING CO.**

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The 'PARAGON' and 'PEAFOLD'

(PATENT)

SINCE their introduction some few years ago these Trainers have been steadily gaining in public favour. A real boon to Gardeners. Simple, effective and durable, giving ample support and keeping the growing peas in neat straight lines. Do not harbour insects or collate the soil.

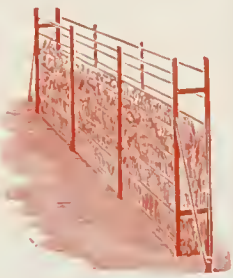
Made 4 ft., 5 ft. and 6 ft. high, and sent out in sets complete ready for putting up, at from 8/6 per set upward. Write for price leaflet

**A Special Width made for Sweet Pea**

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"I am delighted with your Pea Trainers. Please send me another set." D. SWEET  
Supplied through Seedsmen, Ironmongers, &c. or sent carriage paid from the patentees—



The PARAGON PEA TRAINER CO., Bridge St., Banbridge, Co. Down.

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## RANSOMES' LAWN MOWERS

*The Best in the World*

3 GOLD MEDALS

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7 SILVER MEDALS

Possess  
Improvements  
embodied in  
no other  
Machines.



**ROLLER MACHINES,** Gear and Chain driven. For Hand, Horse and Pony use.

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Heating, Ventilating & Sanitary Engineers  
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Royal Horticultural  Society of Ireland

# GREAT ROSE SHOW

AND

# FLORAL FETE



WILL BE HELD

By kind permission of VISCOUNT IVEAGH, K.P.

IN THE GROUNDS OF

His Lordship's Dublin Residence

Stephen's Green (Entrance off Harcourt Street)

Thursday, July 11th, 1912

(Entries close July 3rd)

*Early application for Trade space requested—*

E. KNOWLDIN, Sec., 5 Molesworth St., DUBLIN

## Laxton's New Strawberries for 1912

Including the Grand New Varieties —

**LAXTON'S**

**THE QUEEN, KING GEORGE**

**LAXTON'S**

**THE EARL and MAIN CROP**

Also **LAXTON'S UNIQUE**

**LAXTON'S COUNT**

**LAXTON'S RIVAL**

**Early Potted Runners of**

**ROYAL SOVEREIGN**

For forcing, 16s. 100; open ground, 5s. 100

The Largest Cultures in Europe. Grown specially for Runners. Grand Plants. Millions Sold Annually

A FULL CATALOGUE AND PRICE LIST

will be sent on application



# LAXTON BROTHERS, BEDFORD



## The Royal Horticultural Society of Ireland.

THE monthly meeting of the Council was held at the society's offices, 5 Molesworth Street, Dublin, on the 14th ult. The Spring Show Schedule, 1913, as drafted by the Schedule Committee, was considered, approved, passed, and advance copies ordered to be printed. New classes have been added, notably for Herbaceous Calceolarias; a minor class for Mignonette in small pots, in addition to the usual class; also for winter flowering Stocks, Darwin Tulips, an additional larger class for Single Tulips in vases; and classes for French Beans and New Potatoes.

To obviate misunderstanding, it has been decided that specified sizes of pots and pans shall be *inside* measurement. Alpine exhibitors will also note in the Tully Cup class that small Coniferae must not exceed eighteen inches high, and that flowering shrubs and foliage plants are to be Alpine species, whilst the size of the tables has been extended to twelve feet by four feet. Arrangements were completed for the Summer Show, which, by kind permission of Viscount Iveagh, K.P., will be held in the grounds of his Lordship's Dublin residence, Stephen's Green (entrance off Harcourt Street), Thursday, July 11th. Entries for this show close on the 3rd inst., and, in view of the demands on tent space, trade exhibitors will oblige by early

application. It is generally considered that this particular show is well timed for Roses, which are catered for in seventeen classes. Fine specimens of Mrs. W. J. Grant and Frau Karl Druschki, shown at the meeting by Dr. O'Donel Browne, were unanimously awarded a cultural certificate, he also had a perfect bloom of the new Tea, W. R. Smith. It is gratifying to find that some Rose enthusiasts, who have borne all the ills the rosarian is heir to, whose Teas (at one time) were "all killed out" and were troubled with such minor afflictions as train-tremens, &c., are displaying *ultra vim* (if that is possible) in loyalty to their queen. Mrs. G. M. Jones, Clifton Lodge, Athboy, was elected an annual member of the society. A vote of thanks was accorded to Messrs. Charles Ramsay & Sons for twelve vases of Regal Pelargoniums in twelve distinct varieties, sent in from the Royal Nurseries, Ballsbridge, which were also highly commended.



### GARDENERS AND INSURANCE.

A SPECIAL meeting, convened by the energetic honorary secretary, Mr. McDonagh, who sent over 1,000 letters of invitation to those interested in gardening, was held on June 26th in reference to the Insurance Act. A very large response came, many joining the Gardeners' Association either as honorary members, the ordinary or approved section, sick and unemployment benefit section, or under the Government National Insurance Act.

FOR THE FINEST QUALITY PERPETUAL

## Carnation Plants

Write to GOLD MEDALISTS

# YOUNG & CO.

**HATHERLEY  
CHELTENHAM**

CATALOGUE AND ALL PARTICULARS FREE

\* Read our Treatise on Culture, 1s. post free

Try Perpetuals in the open, the results will astonish you!

## YORKSHIRE GROWN . . ROSES

### FRUIT TREES AND HERBACEOUS

Twelve acres all exceptionally well grown. Interesting and instructive Catalogues free for post card.

Also Clearance Sale List, special offers.

100 Herbaceous, named . . . . .	for 30/-
50 " " " " " " " " " "	15/-
25 Roses without names . . . . .	8 6
12 " " " " " " " " " "	5 -

Send your enquiries, quotation by return.

**G. GIBSON & Co., LEEMING BAR, BEDALE**

# THOMSON'S CELEBRATED MANURES



Indispensable in the Garden  
**SAFE, SURE & LASTING**

The result of many years' practical experience

**VINE, PLANT AND VEGETABLE MANURE**

1 cwt. 20/-; ½ cwt. 10/-; ¼ cwt. 6/-; 14 lbs. 3 6; 7 lbs. 2 6; Tins, 2 6, 1/- and 6d. Carriage paid on 1 cwt. anywhere

**SPECIAL TOP-DRESSING MANURE**

1 cwt. 20/-; ½ cwt. 11/-; 14 lbs. 6/-; 7 lbs. 3 6; Tins, 1/-, Carriage paid on ½ cwt. anywhere

Also Thomson's Book on the Vine.

Thomson's Styptic

Sold by all the leading Seedsmen in Ireland

Write for Pamphlets, Price Lists, &c., to Sole Makers

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# NICOTICIDE

(FUMIGANT)

Kills all Greenhouse Insects without injury to plants

No. 1 size Tin—1 pt. contains sufficient for	40,000	...	15	0
No. 2 size Tin— $\frac{1}{2}$ pint	20,000	...	7	6
No. 3 size Bot.—6 oz.	12,000	...	4	6
No. 4 size Bot.—4 oz.	8,000	...	3	0
No. 4 $\frac{1}{2}$ size Bot.—2 oz., new size	4,000	...	1	8
No. 5 size Bot.—1 oz., 'sample'	2,000	...	0	10

CARRIAGE PAID

## FUMIGATING LAMPS

1s. each, for 5,000 cubic feet

## GOW'S LAWN SAND

DAISY ERADICATOR

28 lbs. (to dress 100 square yds.) 6 6.

$\frac{1}{2}$  cwt. 11/-, 1 cwt. keg 21/-, and in decorated tins



Use Gow's Tobacco Powder and Quassia Extract 6d., 1/- and 2 6, decorated tins.

## GOW'S TREE WASH FOR FRUIT TREES

A perfect destroyer of Woolly Aphis, Codlin, Maggot, Scales, Red Spiders and their Eggs, Apple Suckers, Lichen Moss, and Decayed Bark. Apply in Winter when trees are dormant

PRICES

1 gallon to make 20 gallons ... 5/- per gallon  
5 " " 100 " ... 23/- per drum

ASK YOUR SEEDSMAN FOR ABOVE

HUNTER & GOW, Ltd. 42 Thomas St. LIVERPOOL

# 'PHAROS' WEED KILLER

ONE APPLICATION PREVENTS THE GROWTH  
OF ALL WEEDS THROUGHOUT THE SEASON

The very concentrated form of the 'Pharos' Weed Killer, 1 part to 60 parts of water being sufficient for dressing 200 to 250 square yards of Paths or Drives, combined with the low figure at which it is sold, makes it absolutely the cheapest in the market.

$\frac{1}{2}$ gallon Drum	...	2/- each
1 " "	...	3/6 "
2 " "	...	6/6 "
3 " "	...	9/6 "
5 " "	...	15/- "
10 " "	...	27/6 "

and in 20 and 40 gallon barrels.

ALL PACKAGES FREE.

**Kelvindale Chemical Co.**  
LOCHBURN, MARYHILL, GLASGOW

Telegrams: 'PHAROS,' GLASGOW.

THE CHEAPEST INSECTICIDE OF THE DAY

# "NIQUAS"

(NON-POISONOUS)

IMPROVED

A concentrated Extract of Quassia combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all Insect Pests infesting Trees and Plants, without any possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping

PRICES Half pint, 1-; pint, 1 6; quart, 2 6; half-gallon, 4-  
gallon, 7 6; five gallons, 25-; ten gallons, 40-  
1 gallon sufficient for 100 gallons of water

# STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers.

Analysis on Application

Sold in Tins, 1-, 2 6, 5 6 each; and in Kegs, well secured, to prevent loss through exposure, 28 lbs., 7 6; 56 lbs., 12 6; 112 lbs., 20-

## CORRY'S SPECIAL Chrysanthemum Manure

Sold in Tins, 1-, 2 6, 5 6, and Bags,  $\frac{1}{2}$  cwt., 10 6;  $\frac{1}{4}$  cwt., 18 -;  
1 cwt., 32 -

For Fumigating in Greenhouses.

## "LETHORION" Improved Metal Cones

Registered No. 62,597

To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1, for small frames of 100 to 600 cubic feet, 6d. each; Cone No. 2, 6d. each, 1,000 to 1,200 cubic feet; No. 3, 1- each, 2,000 to 2,500 cubic feet.

## Fowler's Lawn Sand

This preparation is for destroying Daisies and other weeds on lawns, and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 1-, 2 6, and 5- each; Kegs,  $\frac{1}{2}$  cwt., 8 6;  $\frac{1}{4}$  cwt., 16 -;  
1 cwt., 30 -

## ELLIOTT'S 'Summer Cloud' Shading

Registered Trade Mark No. 14,629.

(The only genuine original and improved article)

For Greenhouses. A pleasant green shade is given to the glass.

In packets, 1- for 100 feet of glass, and 2 6 each for 200 feet.

Sole Manufacturers:  
**CORRY & CO., Ltd.**  
LONDON

SOLD BY ALL NURSERYMEN AND SEEDSMEN

## Review.

"THE IRISH VEGETARIAN ANNUAL FOR 1912." In this little booklet one learns what a vegetarian really is, and reasons are given to induce one to join their ranks. As a refutation that feats of physical endurance cannot be performed on a vegetarian diet, instances are given in the past year of Irish vegetarian cyclists and cross-country runners breaking records and winning prizes; and in mental work it is shown they are not in the background. The year's work for 1911 and some recipes are also given.

## The "Sanitas" Company, Limited.

PRESIDING over the Annual General Meeting of the "Sanitas" Company on the 29th of May, the Chairman (Mr. C. T. Kingzett, F.L.C., F.C.S.) stated that, al-

though inconvenience and loss had been caused by the railway, docks and colliery strikes which had taken place during the past year, the sales of their Disinfectants and Sanitary Appliances were larger than in any previous year of the Company's existence.

Two directions in which good progress had been made were the increased use of "Sanitas Fluid" as a fob for preventing the bites of mosquitoes, gnats and other insects, and that of "Sanitas Powder" for ridding gardens of slugs.

## Shows.

THE COUNTY CLARE HORTICULTURAL SOCIETY holds its exhibition of flowers, fruit and vegetables in Ennis on July 17th. There are special prizes offered for Sweet Peas, given by Messrs. R. Sydenham and Mr. Jones, of Kilkenny. Lady Inchiquin offers prizes for Perennials, Carnations, and Begonias, while the Secretary

## SMITH'S "PERFECT" PATENT POWDER AND LIQUID . . .

# WEED KILLER

**MARVELLOUS INVENTION !**

**MOST EFFECTIVE !**

Nothing like it ever seen before. Soluble in Cold Water

THE GARDENS,  
THEYDON PRIORY,  
THEYDON, BOIS.

Your Weed Killer last year gave great satisfaction. I tried with Liquid and Powder and was well satisfied with the results of both; but as there are no empties to return with the Powder, it is with me preferable to the Liquid. I shall recommend it to all I can. C. WALSH.

## Prices of "Perfect" Weed Killer (Powder)

ALL TINS FREE			NO RETURN EMPTIES		
1 Tin, sufficient to make	25 gallons	£0 1 0			
4 Tins	100 "	0 6 6			
8 Tins	200 "	0 12 6	Box	3d. extra	
12 Tins	300 "	0 17 0		4d. "	
20 Tins	500 "	1 7 0		6d. "	
40 Tins	1,000 "	2 8 0		1s. "	

Carriage Paid on 8 Tins to Stations in Ireland.

## Prices of "Perfect" Weed Killer (Liquid)

1 gallon to make 25 gallons for use. (Also supplied Double Strength)

	s. d.		s. d.		s. d.
1 gallon	1 9	5 gallons	8 0	16 gallons	1 2 0
2 "	3 0	6 "	9 0	18 "	1 5 0
3 "	5 0	8 "	12 6	20 "	1 7 0
4 "	6 0	10 "	14 0	40 "	2 8 0
		12 "	17 0		

DRUMS CHARGED EXTRA and allowed for when returned  
Carriage Paid on 8 gallons to Stations in Ireland

4 gallons when mixed will cover an area of about 400 square yards

NOTICE.—These Preparations are Poisonous Sole Proprietors, MARK SMITH, Ltd.

IRISH AGENT

D. M. WATSON, M.P.S., Horticultural Chemist 61 South Great George's Street

Telephone 1071

**DUBLIN**



gives prizes for bouquets of flowers, &c. Amateurs and cottagers will find classes for fruit, flowers and vegetables suited to their needs, in which they can compete, and thus lend support to the society and help to make the show a success. Entries close on July 10th, and H. Bill, Lifford, Ennis, is the Hon. Secretary.

THE LEAS, SAGGART and CLONDAKIN FLOWER SHOW will be held in Corkagh Demesne, Clondalkin, by kind permission of Colonel Finlay, D.L., on July 10th, 1912.

Entries close for the Show on July 15th. Schedule and entry forms may be obtained from the Hon. Sec. Mrs. M. L. Shackleton, 18 Claremont Road, Ballsbridge, Clondalkin, with its ancient historic interest and round tower, should make a good site for a flower show, and the exhibition will provide a most pleasant afternoon to all visitors; numerous games will be in progress during the day for their amusement. During the afternoon visitors will be conducted through the Corkagh Gardens.

## WM. DUNCAN TUCKER & SONS, LTD.



Illustrated Catalogue No. 18, post free

**MODERN GLASSHOUSES** Replete with the latest improvements. Artistic Designs, and best workmanship and materials, combined with utility and economy. Estimates and Plans given for Winter Gardens, Conservatories, and Glass-houses of every description \* \*

All varieties of Garden Frames in \* \* stock \* \*



No. 1 Frame

Office and Showrooms: 27 CANNON STREET, LONDON, E.C.

## UNIQUE SEED CATALOGUE

Amateur growers of rare and choice alpine and herbaceous perennials, should get

## THOMPSON & MORGAN'S

57th ANNUAL LIST

Which describes about 3,000 distinct species and varieties of Flower Seeds (including an up-to-date Collection of Sweet Peas), also a fine assortment of the choicest Vegetable Seeds. Their Catalogue, not being illustrated, does not attract the superficial lover of flowers, but it is much appreciated by the scientific and more advanced class of amateurs, and, moreover, the ridiculously high prices of some firms are avoided, and everything is offered at the lowest possible figure consistent with highest quality. *Post Free on Application*

5 CARR STREET IPSWICH

## SLUGS!

## SLUGS!

## SLUGS!

"SANITAS" POWDER will rid your Garden of SLUGS

Write for Pamphlet and Free Sample, with full instructions

6d. & 1s. tins, and 12s. 6d. per cwt.

On sale at all Chemists, Stores, Nurserymen, or direct from

THE "SANITAS" CO., LTD.  
LIMEHOUSE, LONDON, E.

Awarded Silver Gilt Medal at the Royal Horticultural Exhibition

## DO NOT . . .

## STAKE PEAS

## OR OTHER CLIMBERS

Until you have seen . . .

## "SIMPLICITAS" NETTING

NOTHING else gives equal satisfaction. GEO. HERBERT (an authority on Sweet Peas) says:—"It is the best support I have ever seen." Much superior to Sticks or Wire.

Full particulars on application

Sample Piece, 12 ft. by 6 ft., 2/3 post free

BOUNDARY CHEMICAL COY., Ltd.  
Cranmer Street LIVERPOOL

## FOR A SPRING GARDEN

## DAFFODILS

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## Dublin Wholesale Markets.

THE heavy rains of the past fortnight, which have been experienced in the fruit-growing districts in the south of England as well as in this country, have caused much annoyance and loss to strawberry growers. The amount of fruit marketed has fallen far short of the demand, and prices consequently have only slightly decreased since the middle of the month. The qualities of firmness and flavour which are associated with strawberries in a dry season are lacking to a large extent in the present arrivals; and where the utmost care has not been exercised the damage which the soft fruit has received in transit has considerably detracted from its value. Though strawberries are forwarded in various packages the most popular one is the 4 lb. chip basket. When sending the fruit by rail, a covering of muslin or tiffany tied over the top of the basket ensures that the contents will be protected from dust. It is probably due to the London dock strike that French cherries are only arriving in small quantities; these have fully maintained the price which was received for the first consignments. The earliest supplies of red currants and raspberries came to hand this week; both kinds of fruit exhibited good quality and realised satisfactory prices. In the beginning of the month poor prices were obtained for peaches and nectarines; but it is satisfactory to note that prices have advanced so rapidly that the current rates are now comparatively high. Gooseberries are being forwarded in large quantities, but with the advent of the strawberry season the value of this fruit showed a considerable depreciation.

Flowers continue to arrive in ever increasing quantities and varieties, but good returns are still to be got for those which are best suited for florists' work. Prominent among these are Carnations, Irises, Gladioli, Roses and Sweet Peas.

That the wet weather is doing a good turn to the vegetable grower is evidenced by the quantities of peas, lettuce, onions and cabbages which are daily sent to the markets. Lettuce, in fact, is over plentiful for a profitable price to be obtained. Cauliflowers are, as yet, somewhat scarce, but it is expected that in a week or two the supply may be increased, since they are not exhibiting the "buttoning" which was so common last year. The quality of Tripoli onions is rather inferior, a large percentage having run to seed, probably on account of the check which they sustained during the

dry weather in late spring. Tomatoes are not so plentiful as is usual at this time of year, a circumstance which may be attributed to a comparatively sunless June. New potatoes of good quality are now arriving in quantity from the south and midlands of Ireland. Growers of early varieties find a profitable market on the other side of the Channel, especially in Liverpool and Glasgow, to which cities many tons are exported from Dublin every week. The following were the prices:—

	FRUIT.	From		To	
		s.	d.	s.	d.
Cherries—French	per $\frac{1}{2}$ bushel	6	0	8	6
Currants, Red	per lb.	0	5	0	0
Gooseberries	per $\frac{1}{2}$ bushel	2	6	3	6
Grapes Irish	per lb.	1	9	2	0
Melons	each	2	0	3	6
Nectarines	per dozen	3	9	4	6
Peaches	do.	6	0	10	0
Raspberries	per doz. punnets	10	0	11	6
Strawberries	per lb. selected	1	2	1	6
do.	per peck	3	0	4	6

FLOWERS.					
Carnations American	per doz.	1	0	1	4
Gladiolus	per doz. bunches	4	6	6	0
Iris (Spanish)	do.	3	0	5	0
Pæonies	do.	5	0	7	6
Pinks	do.	1	6	2	0
Pyrethrums	do.	6	0	8	0
Roses	per doz. blooms	0	9	1	3
Stocks	per doz. bunches	4	0	6	6
Sweet Peas	do.	1	8	2	6

VEGETABLES.					
Artichokes (Globe)	per doz.	1	6	3	0
Asparagus	per bundle	1	6	2	6
Beans (French)	per lb.	0	6	0	8
Cabbages (York)	per load	8	0	16	0
Carrots	per doz. bunches	0	9	1	0
Cauliflowers	per doz.	2	0	2	6
Cucumbers	do.	2	0	3	0
Lettuce	per tray	0	3	0	4
Mint	per doz. bunches	0	8	0	10
Mushrooms	per lb.	1	3	1	6
Onions—Tripoli	per bunch	0	6	0	8
Parsley	per tray	0	4	0	6
Peas	per float	3	0	3	6
Potatoes (New)	per stone	0	8	0	10
Radishes	per doz. bunches	0	3	0	6
Rhubarb	do.	1	0	2	0
Spinach	per tray	0	8	1	0
Tomatoes	per lb.	0	4	0	6
Turnips (white)	per bunch	0	6	0	8

22nd June, 1912.

A. C.

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<b>TULIPS</b> , double, in the finest mixture	2 2	20 0
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<b>ANEMONE</b> , The Bride, pure white	1 6	14 6
<b>CROCUS</b> , first size, in the finest mixture	1 6	14 6
<b>CROCUS</b> , second size, in the finest mixture	1 0	9 0
<b>SCILLA SIBIRICA</b> , rich blue	1 6	14 6
<b>IRIS</b> , SPANISH, mixed	0 8	5 6
<b>IRIS</b> , ENGLISH, mixed	2 0	16 8
<b>NARCIS.</b> , single, in the finest mixture	1 4	12 6
<b>NARCIS.</b> , Trumpet, in the finest mixture	2 6	20 0
<b>NARCIS.</b> , double, fine mixture	2 6	20 0
<b>NARCIS.</b> -POLYANTHUS, finest mixed	3 6	30 0
<b>SNOWDROPS</b> , ELWESI, The Giant Snowdrop	1 6	13 6
<b>RANUNCULUS</b> , FRENCH, double mixed	0 9	7 0
<b>SCILLA CAMPANULATA</b> , and Blue Bells	2 0	—
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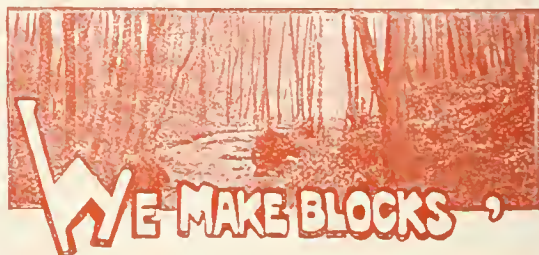
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OF THE SOCIETY

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THE GROUNDS OF

His Lordship's Stephen's Green

Residence (Entrance from  
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On **TUESDAY, 27th AUGUST, 1912**

Entries close on 19th August

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## Royal Horticultural Society.

SUMMER SHOW, 1912.

THE Royal Horticultural Society of Ireland held their Summer Show in the grounds at Stephen's Green, kindly lent by Lord Iveagh, on Thursday, 11th July, 1912.

Three large tents were erected for the exhibits, which were in general up to the average standard. Roses and Sweet Peas were the two outstanding features of the Show.

The Roses of Dr. Campbell Hall, Monaghan, which won outright the Challenge Cup presented by Lord Ardilaun, were a very fine lot. He was also second in the class for a stand of eighteen Hybrid Teas.

Dr. O'Donel Browne showed very good flowers, winning second for stand of twelve, first for six, and first for eighteen.

Mr. Crozier, Stillorgan, was very successful, and exhibited some large flowers, especially of Frau Karl Druschki. He was first for the Table of Roses, first for stand of twelve, first for eighteen, first for twelve Teas, second for six darks, and first for six light-shaded.

In the nurserymen's classes Messrs. Hugh Dickson, Ltd., Belfast, won four first prizes and two medals, and

Messrs. Alex. Dickson & Sons, Ltd., Newtownards, Co. Down, won one medal and three seconds.

Some excellent flowers were to be seen on these stands. Sweet Peas were well shown, Miss Field, Shanganagh Park, Dublin, winning first prize for the twelve vases and first prize for the nine vases, with some of the finest blooms that have ever been exhibited in Dublin. They were of very good substance and colour, large size, and borne on very long, stout stems.

Herbaceous flowers were very well shown by Mrs. G. Mitchel, Ardlui (gardener, Mr. Baker), and also by Capt. L. Riall (gardener, Mr. Webster).

In the fruit section, gooseberries, currants, and strawberries were well represented. Viscount de Vesci, Abbeylax (gardener, Mr. McGlashan), being first for both classes of gooseberries, Alderman Bewley winning first for red currants, and Capt. Riall first for blacks.

For whites, Col. Sir H. Poe, Heywood (gardener, Mr. Cook), was first, as he was also for three dishes of strawberries. Lady Rathdonnell had the best single dish of strawberries.

There were three exhibits for the collection of six kinds of vegetables, and there was not much to choose between the first prize lot of Miss Field, Shanganagh Park, and that of Col. Sir H. Poe, Heywood. Alderman Bewley, Rathgar, was second.

In the nurserymen's section a gold medal was

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50 " " " " " "	15/-
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No. 3	size Bot.—6 oz.	"	15,000	...	4 6
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No. 4 1/2	size Bot.—3 oz., new size	"	4,000	...	1 8
No. 5	size Bot.—1 oz., "sample"	"	3,000	...	0 10

CARRIAGE PAID

## FUMIGATING LAMPS

15s. each, for 5,000 cubic feet

## GOW'S LAWN SAND DAISY ERADICATOR

25 lbs. (to dress 100 square yds.) 6 6.  
1 cwt. 11/-, 1 cwt. keg 21/-, and 10  
decorated tins

Use Gow's Tobacco Powder and Quassia Extract  
6d., 1/- and 2 6, decorated tins.

## GOW'S TREE WASH FOR FRUIT TREES

A perfect destroyer of Woolly Aphis, Codlin, Maggot,  
Scutes, Red Spiders and their Eggs, Apple Suckers,  
Lichen Moss, and Decayed Bark. Apply in Winter  
when trees are dormant.

PRICES

1 gallon to make 20 gallons ... 5/- per gallon  
5 " " 10 " " ... 23 per drum

ASK YOUR SEEDSMAN FOR ABOVE

HUNTER & GOW, Ltd. 42 Thomas St.  
LIVERPOOL



THE CHEAPEST INSECTICIDE OF THE DAY

## "NIQUAS"

(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia combined with other natural  
ingredients, forming a cheap, safe, and effective Insecticide for syring  
ing and dipping. It destroys all Insect Pests infesting Tree and  
Plants, whilst no possible injury to vegetation can result from its use.  
It can be applied with syringe or pump, or used for dipping.

PRICES Half pint, 1-; pint, 1 6; quart, 2 6; half gallon, 4 -  
gallon, 7 6; five gallons, 25 -; ten gallons, 40 -  
1 gallon sufficient for 100 gallons of water

## STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Power

Analysis on Application

Sold in Tins, 1-, 2 6, 5 6 each, and in Kegs, well secured, to prevent  
loss through exposure, 2 lbs., 7 6; 5 lbs., 12 6; 112 lbs., 20 -

## CORRY'S SPECIAL Chrysanthemum Manure

Sold in Tins, 1-, 2 6, 5 6, and Bags, 1 cwt., 10 6; 1/2 cwt., 18 -;  
1 cwt., 32 -

For Fumigating in Greenhouses.

## "LETHORION" Improved Metal Cones

Registered No. 62,597

To destroy Insect Pests. The Candle attached to each Cone only needs  
lighting, and there is no further trouble. They are most efficacious.

No. 1 for small frames of 10 to 100 cubic feet, 6d. each; Cone No. 2,  
8d. each, 1,000 to 1,200 cubic feet; No. 3, 1- each, 2,000 to 2,500  
cubic feet.

## Fowler's Lawn Sand

This preparation is for destroying Daisies and other weeds on lawns,  
and at the same time stimulating the growth of the grass. If one tin  
is tried as a sample, its value will be at once appreciated. Sales are  
largely increasing.

Tins, 1-, 2 6, and 5 - each, Kegs, 1 cwt., 8 6; 1/2 cwt., 16 -;  
1 cwt., 30 -

## ELLIOTT'S 'Summer Cloud' Shading

Registered Trade Mark No. 14,629.

(The only genuine original and improved article)

For Greenhouses. A pleasant green shade given to the glass.

In packets, 1- for 10 feet of glass, and 2 6 each for 10 feet.

Sole Manufacturers:

CORRY & CO., Ltd.  
LONDON

SOLD BY ALL NURSERYMEN AND SEEDSMEN

## BENTLEY'S WEED DESTROYERS

Utterly annihilate Weeds, Moss, Dandelions, and all other weeds  
on Garden Walks, Carriage Drives, &c.

Have the largest sale in the United Kingdom!

Are the most powerful manufactured!

Are the most permanent in effect!

LIQUID (Poison)	DOUBLE STRENGTH (1 to 50)	
3 Gallons, to make	150 Gallons	... £0 10 0
6 " "	300 Gallons	... 0 18 0
12 " "	612 Gallons	... 1 13 0
20 " "	1,020 Gallons	... 2 7 6
40 " "	2,040 Gallons	... 4 10 0
SPECIAL CONCENTRATED STRENGTH (1 to 80)		
3 Gallons, to make	243 Gallons	... £0 14 6
6 " "	486 Gallons	... 1 6 0
12 " "	972 Gallons	... 2 5 0
24 " "	1,944 Gallons	... 4 7 6

## BENTLEY'S Compound Quassia Extract (THE ORIGINAL)

An infallible non-poisonous destroyer of Aphis in all its forms,  
20 to 40 galls, 3 6; 10 galls, 3 7; 5 galls, 3 8 per gall;  
1 gall., 4 2; 1/2 gall., 2 6; 1 quart, 1 6; 1 pint, 1 -.

Carriage Paid on 5 - orders and upwards

WHOLESALE MANUFACTURERS

JOS. BENTLEY, Ltd.  
CHEMICAL WORKS BARROW-ON-HUMBER, HULL

awarded to Sir J. Gore-Booth, Lissadell, Sligo, for an excellent and choice collection of hardy herbaceous plants, which included some choice Spiraeas and Campanulas.

A silver medal was awarded to Messrs. Chas. Ramsay & Son, Ballsbridge, Dublin, for an excellent exhibit of Ferns, Carnations, Palms, Hydrangeas and floral design.

A silver medal was also awarded for a classic exhibit of cut flowers of Carnations, Roses and floral design, of Messrs. Ellis of Grafton Street, Dublin. The vases and table design were very much admired.

Messrs. Watson & Son, Clontarf, were awarded a silver medal for a collection of plants which included some very fine specimens of *Statice Suworowi*, a dwarf growing Begonia Lafayette, and a nice lot of their new Geranium "Decorator." This is an acquisition.

Messrs. Pennick, Delgany, were awarded a bronze medal for a nice collection of hardy flowering and ornamental shrubs and plants.

Messrs. Alex. Dickson & Sons, Ltd., 61 Dawson St., Dublin, had a very interesting exhibit of pots and pans of seedling plants showing germination. For this a silver medal was recommended.

## Review.

THE ALPINE FLORA.\* By H. Correvon and P. Robert.—This work has been translated into English and enlarged, under the author's sanction, by E. W. Clayforth. It contains 180 reproductions of studies in water colour of P. Robert. These studies clearly show that the artist is in love with his work, and has taken infinite care to give correct impressions. He himself has written—"I felt that it is not by violating the form of a plant that one succeeds in making it reveal all that it should tell from a decorative point of view. The further I advanced in the deep study of the Alpine flora the more was I convinced that it is impossible to produce anything of beauty, to deliver any new message, except by getting as close as may be to nature, in order to catch the silhouette of the plant in its most characteristic aspect."

*Cyclamen europæum*, with its marbled leaves and naturally poised flowers; *Carlina acaulis*, the Alpine Thistle (*Eryngium alpinum*) are beautiful and pleasing studies picked from a host of attractions; but the foliage

\* "The Alpine Flora," published by Methuen & Co., Ltd., 36, Essex Street, London. Price 10s. net.

greenery of *Saponaria ocymoides* seems out of harmony, and never have we seen *Geum reptans* so gaudy in its calyx robe either at home or abroad.

Monsieur Correvon is well known as an authority on the Swiss Alpines, and few Alpinists have so much enthusiasm for their subjects.

In a general introduction Mons. Correvon gives chapters on the "Acclimatisation and Culture of Alpines," and some descriptions of "Alpine Gardens and Rockeries."

The author is not afflicted by any kind of British modesty, but continually refers the reader to some of his other works and papers for information and notes on cultivation.

The description of species of Alpines occupies 169 pages, and intermingled will be found interesting facts and some cultural notes on the plants. The book forms a handsome volume, and will be found useful as a work of reference, and also to those who love Alpines and travel in Switzerland.

## Catalogues.

Mr. T. SMITH, of Newry, sends his catalogue of Hardy Bulbs. As usual it is replete with a choice selection of all that is best in bulbs, tubers and rhizomes. Of a handy pocket size, the Daisy Hill Catalogues are most useful in the garden, permitting of rapid reference to a fine assortment of reliable goods at fair prices.

MR. CHRISTOPHER BOURNE, the well-known Daffodil specialist, has issued his annual list of these popular spring flowers. In it will be found the latest novelties, as well as the best of the older sorts. Useful tables are included, showing the best varieties for forcing, varieties classified according to price, &c., while the main body of the catalogue is occupied with descriptions of the best kinds under their respective sections.

## Correspondence.

DEAR SIR, Fungoid diseases are to be seen in various forms on most fruit trees and bushes, but in my opinion, as I have already said in my remarks on form, the American blight is far more destructive, and in view of the efforts which are being made to extend the cultivation of apples in this country the eradication of this pest is of national importance. Most well-ordered

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Amateur growers of rare and choice alpine  
and herbaceous perennials, should get

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### 57th ANNUAL LIST

which describes about 3,000 distinct species and varieties of Flower Seeds (including an up-to-date Collection of Sweet Peas), also a fine assortment of the choicest Vegetable Seeds. Their Catalogue, not being illustrated, does not attract the superficial lover of flowers, but it is much appreciated by the scientific and more advanced class of amateurs, and, moreover, the ridiculously high prices of some firms are avoided, and everything is offered at the lowest possible figure consistent with highest quality. *Post Free on Application*

5 CARR STREET—IPSWICH

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## SLUGS!

## SLUGS!

"SANITAS" POWDER will rid your Garden of  
SLUGS

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6d. & 1s. tins, and 12s. 6d. per cwt.

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LIMEHOUSE, LONDON, E.

Awarded Silver Gilt Medal at the Royal Horticultural  
Exhibition



gardens are doing their best to reduce it inside the walls of their gardens and orchards. But what about all the crabs, &c., which are growing in fences and various places, acting as they do as breeding and distributing centres, spreading the disease over the trees under cultivation annually? I submit that this is a problem which will have to be dealt with by the powers that be, before the cultivation of apples in Ireland can become a great success. The total destruction of the crab and every other tree or bush bearing any relation to the apple—that is, not under control or cultivation for the purpose of producing fruit—is the only possible way of stamping out American blight. The planting of crabs or the like in hedges should be forbidden. Thorns make a better fence and are just as cheap to buy.

Stradbally, Queen's Co.,

July 12, 1912.

THOS. RYAN.

MR. W. WINSTANLEY writes from Kildare: "Please find two photos of loganberries growing and covering a wall twelve feet high, facing east. I also grow them on a wall facing south-west, but I find those on the east wall are superior in size of berry and flavour. Two years ago this wall was covered with ivy."

MR. G. SMITH, Newry, sends a branch of *Acer Trautvetteri*, with beautiful crimson winged fruit. From a distance, Mr. Smith says, the fruit makes the tree look so bright and attractive that it appears to be in full flower. *Acer Trautvetteri* comes from the Caucasus.

The foliage and habit of the tree is rather like the common Sycamore, but the flowers are carried on an erect panicle, whereas those of the Sycamore are borne on a drooping raceme.

## Answers to Correspondents.

MR. F. HAUGHEY, of Tara, writes: "A description of the accompanying Sweet Pea may be of some interest to your readers owing to the peculiar formation of the flowers. The variety is Mrs. C. W. Breadmore. Some of the flowers have produced two distinct standards, others three wings, some an additional petal, enveloping the keel and protruding between the wings."

When well grown some of our present-day varieties of Sweet Peas are inclined to come with a double standard, and recognising this fact the National Sweet Pea Society formulated a rule for the current year that these were not to be shown in competition with the ordinary type in certain classes. The Sweet Pea is in a state of transition, for it has received so much attention from the hybridist of late years, and it looks as if we are in for a race of doubles, or at least semi-doubles, which is not altogether desirable.

### EELWORMS AND ACETYLENE GAS REFUSE ("E. O.")

All plants and weeds should be cleared off the infested ground, and then a thin layer of the acetylene gas refuse should be spread over the ground and dug well in. After a fortnight has elapsed the ground should

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Capt. BARRETT-HAMILTON

KILMANOCK, CAMPILE via Waterford

Cheap Quotations for the commoner kinds in quantities, for naturalisation by Walks and in Woodlands.

CUT BLOOMS WHEN IN SEASON

Telegrams—"Hamilton, Kilmanock, Campile"

again be turned over with a fork, so as to well mix the gas refuse with the soil. Do not put the acetylene gas refuse on to the ground fresh from the generator when wet, but place it aside in some corner where it can stay until well drained and nearly dry. No plants can be safely planted in the treated ground for at least two months from the date of application of the refuse. It has been known to kill strawberries and destroy the power of germination of seeds when applied in a fresh state. In greenhouses the infested soil may be sterilised, and the French have used carbon-bisulphide with good results, but this is expensive. Drought reduces the number of eelworms in the soil, and potash manures have been proved to be detrimental to them.



THE Katakilla Wash, manufactured by McDougall Bros. of Manchester, is said to be free from nicotine, arsenic, or any dangerous poison. Katakilla should prove valuable as a wash for fruit trees, roses, and plants generally. It is a thick liquid which mixes readily with cold water, but soft water should be used when possible. We tried a sample on blackfly on Chrysanthemums and mealy bug on some indoor plants. The wash was applied by means of a good strong sprayer, with the result that the aphides and bug were killed by the wash.



#### SEEDSMEN'S SUCCESSES.

DURING the past ten days Messrs. Webb & Sons, The King's Seedsmen, of Stourbridge, have been awarded four gold medals for exhibits of their specialities at Bath, Wolverhampton, Southampton, and Birmingham shows. The displays, which comprised Gloxinias, Sweet Peas, Vegetables, Melons, &c., were greatly admired. Other recent awards to Messrs. Webb include gold medals at York and Richmond, and large gold medal and diploma of honour at the Royal International Horticultural Exhibition for flowers raised from seed.

### Dublin Wholesale Markets.

DURING the month of July small fruits claim first consideration, for they now occupy most of the space on the salesmen's stands. A rather remarkable feature of this fruit season, which is now drawing to a close, has been the all-round good return which soft fruits have yielded. Throughout the whole month prices have fluctuated very little, since the demand always seemed to exceed the supply. For various reasons black currants have been very scarce, with the result that the cost of this fruit is much above the average. Judging by the quantity of gooseberries which have been auctioned this season it would appear that they are not being cultivated, for commercial purposes, to the same extent as in former years. Until this year the loganberry has almost been a stranger to the markets, but it is pleasing to note that at the present time it is much more in evidence, and is receiving from the public some of the favour which it justly deserves. With the exception of some consignments from a few of the northern counties, particularly Armagh, the supply of strawberries is finished. The early cessation of cross-Channel supplies ensured to growers in this country the remarkable prices which were obtained in the earlier part of the month, and which showed only a slight diminution towards its close. Irish apples are now being forwarded in small quantities. These early arrivals chiefly consist of "thinnings" from the larger cooking varieties,

but in addition there were on sale some trays of selected cooking apples.

During the rush of the fruit season flowers do not seem to be so much in request as at other times. The supply is being well maintained, and is now very varied in character. The Sweet Peas may be said to vie with the Roses for premier place, while all annuals which are useful for decorative purposes are also to the fore. The supply of vegetables is equal to the demand, in some cases exceeding it. Broad beans and peas are very plentiful, and of good quality, but the prices which they are realising cannot be termed profitable. Lettuce, carrots, and spinach are also suffering through weight of supply. The first arrivals of celery exhibit good quality, and it may be confidently expected that this vegetable will yield a better return than it did last year. Cabbages are now very plentiful, while the quality is greatly improved. The high prices which were obtained last month for cauliflowers have fallen considerably on account of increased supplies. The following were the prices:—

FRUIT.		From s. d.	To s. d.
Apples—Irish (early cooking vars.)	per doz.	0 3	0 6
„ Irish (thinnings)	per float	1 6	2 0
Cherries	per peck	3 6	6 0
Currants, Black	per lb.	0 4½	0 7
„ Red	„	0 3	0 5
„ White	„	0 4	0 6
Gooseberries	per basket of 12 lbs.	2 6	3 6
Grapes—Irish	per lb.	1 3	1 9
Greengages	per ½ bushel	8 6	10 6
Loganberries	per lb.	0 3	0 4
Melons	each	2 0	4 6
Nectarines	per dozen	4 0	7 6
Peaches	„	5 0	8 0
Plums—French	per ½ bushel	4 0	6 0
Raspberries	per lb.	0 4	0 6
Strawberries (dessert)	per lb.	0 8	1 6
„ (preserving)	„	0 4	0 6

#### FLOWERS.

Alstroemeria	per doz. bunches	2 6	3 6
Carnations (American vars.)	per doz. blooms	0 8	1 0
„ Malmaison	„	3 0	4 0
Chrysanthemum max.	„ bunches	1 0	1 6
Corianders	„ „	0 9	1 0
Gladiolus (The Bride)	„ „	2 6	3 6
Gypsophila paniculata	„ „	3 0	4 0
Roses	„ blooms	0 6	1 6
Stocks	„ bunches	1 6	2 0
Sweet Peas	„ „	0 9	1 3

#### VEGETABLES.

Artichokes (Globe)	per doz.	0 9	1 0
Beans (Broad)	per float	0 5	0 8
„ (French)	per lb.	0 4	0 6
Cabbages	per load	10 0	16 0
Carrots	per doz. bunches	0 6	0 8
Cauliflowers	per doz.	0 8	1 0
Cucumbers	„	1 0	2 0
Lettuce	per tray	0 2	0 3
Marrows	per doz.	2 6	4 0
Mint	per doz. bunches	1 6	2 0
Onions—Tripoli	per bunch	0 6	0 8
Parsley	per tray	0 3	0 6
Peas	per float	1 0	1 6
Rhubarb	per doz. bundles	0 9	1 6
Spinach	per float	0 4	0 6
Tomatoes	per lb.	0 4	0 6
Turnips (white)	per bunch	0 2	0 4

A. C.

# Miscellaneous Section

## NEW JERSEY HYBRID TEA ROSE DUCHESS OF NORMANDY

Coral of Commendation, National Rose Society

This new Rose is the very perfect (except its colour) thing of its class, although it is a plant with very good many plants can with the world famous **DEAN HOLE**, and with them it can be put up with in all exhibitions.

## JERSEY BORDER CARNATIONS

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**DESIGNING**, Laying out and Planting of New and Renovating of Old Gardens. The Making and Planting of Rock Gardens, Rockeries, Water and Bog Gardens, and Pergolas a Speciality.

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## WINDOW GLASS

Polished Plate for Shop Windows.

Horticultural Glass at Lowest Rates

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**HOYTE'S WEED KILLER.**

*Strongly Recommended for the Destruction of Weeds, &c.*

Price, 2s. per gallon; 5 gallons, 1s. 6d. per gallon; 10 gallons, 1s. 3d. per gallon; Original 40-gallon casks, 1s. per gallon.

**HOYTE & SON**, The City of Dublin Drug Hall,  
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Please mention this Paper

**IF YOU HAVE A GLASS ROOF THAT LEAKS**, a Conservatory to repair, or any kind of glazing work to be done, **CARSON'S PLASTINE** will save money, time, worry and annoyance consequent on the use of ordinary putty, which cracks, crumbles, and decays. It saves the expense of constant renewals. Carson's Wood Preservative in green and brown, for Palings, Trellis Work, &c. The best paint for Greenhouses is "Vitrolite." Write for Catalogue. **CARSON'S**, 22 Bachelor's Walk, Dublin.

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LEAD TO DEATH to Lead-mining Maggots, Mealy Bug and all Pests infesting plants under glass, &c. Simple to use, no apparatus required. In Boxes to fumigate 1,000 cubic feet, 6d.; 10,000 cubic feet, 3s. 6d. each. Obtained of Seedsmen and Florists; if unobtainable apply direct—

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HYACINTHS, single, first size, named, in 25 leading sorts, red, white, and blue varieties, equal quantities, my selection ... ..	15 0	—
TULIPS, single early, in the finest mixture ... ..	2 0	18 4
TULIPS, Darwin, mixed ... ..	3 0	25 0
TULIPS, double, in the finest mixture ... ..	2 2	20 0
ANEMONES, single mixed ... ..	1 6	14 6
ANEMONE, The Bride, pure white ... ..	1 6	14 6
CROCUS, first size, in the finest mixture ... ..	1 6	14 6
CROCUS, second size, in the finest mixture ... ..	1 0	9 0
SCILLA SIBIRICA, rich blue ... ..	1 6	14 6
IRIS, SPANISH, mixed ... ..	0 8	5 6
IRIS, ENGLISH, mixed ... ..	2 0	16 8
MARCIS., single, in the finest mixture ... ..	1 4	12 8
MARCIS., Trumpet, in the finest mixture ... ..	2 6	20 0
MARCIS., double, fine mixture ... ..	2 6	20 0
MARCIS.-POLYANTHUS, finest mixed ... ..	3 6	30 0
SNOWDROPS, ELWESI, The Giant Snowdrop ... ..	1 6	13 6
RANUNCULUS, FRENCH, double mixed ... ..	0 9	7 0
SCILLA CAMPANULATA, and Blue Bells ... ..	2 0	—
SCILLA CAMPANULATA, white ... ..	2 0	—
SCILLA CAMPANULATA, mixed ... ..	1 6	—
TRITELEIA UNIFLORA, ... ..	1 0	—

260 Bulbs of same kind will be charged at the 1,000 rate;

25 at the price per 100; 8 at the price per 12.

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Lady Hillingdon, T.	Mrs. H. Stevens, P.
Lady Pirrie, H.P.	Mrs. W. Christie-Miller, H.T.
Lieut. Chaure, H.P.	Rayon d'Or, H. Per.

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FRUIT TREES FOR ORCHARD PLANTING

FRUIT TREES FOR GARDEN PLANTING

FOR PLEASURE ... FOR PROFIT

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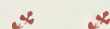
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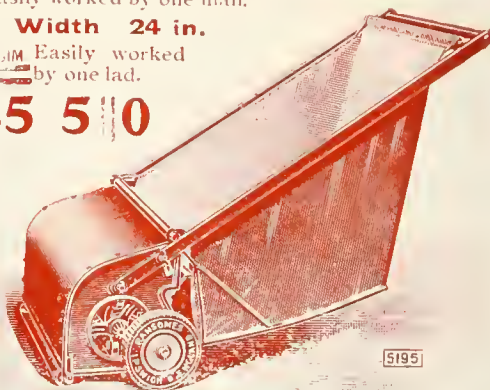
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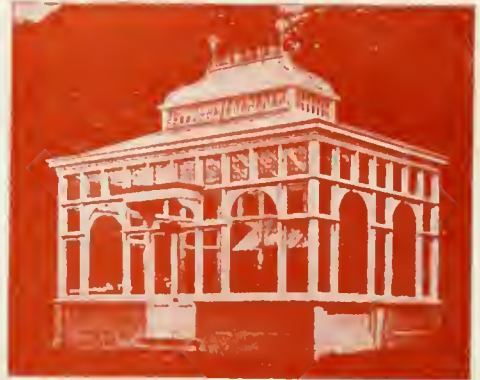
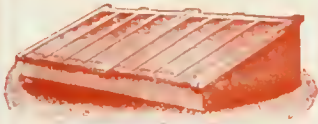
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use charcoal or any other absorbents. To change water in the glasses stand them in a sink or tub every three or four weeks and fill up with can or jug, making them run over freely until all the water is changed.

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For the commercial fruit grower, or those contemplating taking up fruit growing for profit, no more useful or up-to-date book could be recommended. The private grower, too, who has very often to produce immense quantities of high-class fruit from a small area, will find much information and help in overcoming many of the difficulties only too well-known to those already in practice.

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Tel. No. 182.

## The Larch Sawflies.

*Nematus Erichsonii*, Hartig, and *N. laricis*,  
Hartig.

CATERPILLARS of both these species were found on larch at Avondale, in June, by Mr. A. C. Forbes. The former occurred very sparingly, but the latter was present in considerable numbers.

*Nematus Erichsonii*, the large larch sawfly, has attracted much attention during recent years in Great Britain on account of the damage done by its caterpillars in larch plantations. For example, an extensive wood belonging to the Manchester Corporation, near Thirlmere, in the Cumbrian Lake district, was almost stripped of leaves by these insects. The fly belongs to the section *Lygæonematus* of the large and comprehensive genus *Nematus*, which includes the well-known Gooseberry Sawfly. The female of *N. Erichsonii* measures 9 mm. ( $\frac{3}{8}$  in h) in length; she is black in colour, with a reddish band across the abdomen, and with the legs mostly yellowish. The male insect is very rare, and it has been shown by Dr. R. Stewart MacDougall that where the sawflies are so numerous as to cause a veritable plague, the generations are parthenogenetic. The caterpillar is about 18 mm. ( $\frac{3}{4}$  inch) in length, with black head and legs, and the body black or greyish-green above and yellowish-green below. The fly has but one life cycle in the year, the female laying her eggs in late spring or early summer, and the caterpillars feeding until August. When numerous the caterpillars feed in clusters, and in bad

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eases the trees are completely stripped of leaves. When fully grown the caterpillars descend to the ground, burrow into the turf around the trees, and spin cocoons in which they spend the winter, not pupating until the following spring.

The sudden appearance of this species as a seriously destructive insect in England in 1906 is noteworthy, since Cameron in 1885 recorded only two English specimens. It is widely spread in northern and central Europe, being known as a pest by German foresters, and it is found in North America. It is also of interest to know that since its outbreak at Thirlmere the sawfly has been greatly kept in check by the activity of enemies such as ichneumon flies.

*Nematus larnus*, the smaller larch sawfly, is a black insect measuring only 6 mm. (about  $\frac{1}{4}$  inch) in length. Its caterpillar is uniformly pale green, with brown head. Although they were present at Avondale in considerable numbers they do not seem to be seriously injurious. —PROFESSOR CARPENTER in *Economic Proceedings of the R. D. S.*

### Royal Horticultural Society.

At the council meeting on the 11th ult. the draft schedule of the 1913 autumn show was discussed and approved, several new classes being added, with some increase made in the prize money in others. Failing a summer show next year, which is not on the tapis, a winter fruit and flower show having been arranged for, substantial amplification will be found in the rose

classes, and in the fruit section a class has been added for a collection of twelve dishes, to be shown on a table space of nine feet by three feet, each exhibit to be decorated with small pot plants, cut flowers and foliage, £6 in money being allocated to this class. Quite a nice display of cut flowers was in evidence at the meeting, a cultural certificate being awarded to Mr. W. Usher, of Brenanstown Gardens, Cabinteely, for fine spikes of seedling Pentstemons, a further cultural certificate being awarded to Mr. John Dawson, foreman, the Chief Secretary's Gardens, Phoenix Park, for Hybrid Perpetual Carnations, two of which were highly commended, a vote of thanks being passed to Messrs. Charles Ramsay & Sons for a collection of border Chrysanthemums from the Royal Nurseries, Ballsbridge. The Rev. H. Kingsmill Moore, D.D., and Messrs. Robert Jameson & Sons, Royal Nurseries, Sandymount, were elected members of the society.

### Irish Forestry Society.

The general quarterly meeting, held at 33 Dame Street, Dublin, on the 10th ult., appeared to us highly successful, inasmuch as there was a good attendance of those interested in re-timbering the Green Little Island, with good speakers who spoke very much to the point. Talk turned chiefly on the celebration of a National Arbor Day for Ireland, Sir Frederick Moore giving the ball a good kick off in support of the resolution. Prior to this, however, letters of sympathy with

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the movement and regrets at inability to be present were read by Mr. H. O. Braddell, I.S.O., who presided, from the Private Secretary to the Lord Lieutenant, Lord Castletown (president of the society), The Right Hon. T. W. Russell, M.P., The Right Hon. W. F. Bailey, The Right Hon. Frederick Wrench, Dr. Pethybridge, Professor Carpenter, Sir John W. Moore, Sir Andrew Reed, and others. The Lord Mayor of Dublin wrote—"I do hope you will succeed in arousing a keen public interest in the question of tree planting in Ireland." If every Irish farmer would even do a little planting, in the course of some years the country would be largely enriched. We must confess to some little disappointment that the labours of some half-dozen Press men, who comprehensively ticked off the talk in cabalistic characters, appeared the next day condensed to half a column, but with the Press, presumably, the next day, the time had come to talk of many things, hence even tree-men must be thankful for small mercies. Sir Frederick Moore pertinently, but in no pessimistic vein, pointed to the waste spots which serve no purpose for agriculture, which might be availed of and made profitable by judicious planting without infringing on good agricultural land, whilst Mr. A. C. Forbes, of the Avondale Forestry Station, advocated the establishment of district societies for carrying out the good work within the area of each. Mr. Charles Dawson, who, as a member of the executive, is burning with zeal, interspersed his practical prose with some stirring poetry, Alderman Ireland following. Then Professor Campbell, of the Department of Agriculture, tackled the question, including some inspired remarks, which went to show that this side of Ireland's industrial development is not being overlooked by the powers that be, and further gave his opinion that a National Arbor Day for Ireland should do much to stimulate public interest in the matter. The Rev. H. McV. Taylor drew apt comparisons between the beautifying of English cottage homes by tree planting and the want of such, often felt by itinerants in Ireland; and, presuming that our Editor has, too, to talk of many things, we foreshorten this note with the hope that some quota of that sympathy, expressed by many, for the work of the Irish Forestry Society may take the more practical form of increasing the membership (at present ridiculously small, in spite of the subscriptions being most modest) to enable it to push on the good work, details of which, we understand, can be had from the secretary, 5 Molesworth Street, Dublin. Those who *do* know the why and wherefore of the Irish Forestry Society have faith in it as a potential influence of good, and with more support, moral and pecuniary, particularly the latter, an extension of its good works could and would be added.

#### QUIZ.

### Catalogues.

DRUMMOND'S NURSERY CATALOGUE is clear and well printed, with some exceptionally good illustrations. The letterpress is well arranged, the descriptions are brief but lucid, and useful information is conveyed for intending planters. Among the contents listed are the various kinds of hardy fruit trees, roses, forest

trees, deciduous and evergreen flowering shrubs and climbers. At the end is a most useful page giving lists of trees and shrubs for such purposes as for planting in proximity to the sea, for planting under the shade of trees, also those good for a town district, and some worth growing for their autumn tints.

MESSRS. H. MERRYWEATHER & SONS, LTD., send their catalogue for 1912-1913. Their extensive nurseries are situated at Southwell, Notts, and well worth a visit if one wishes to see good roses, fruit trees, and shrubs grown in great quantities. The list of roses is a large one, and includes many good novelties, the beautiful Irish-raised "British Queen" among them. Collections are given from a dozen up to a hundred to suit purchasers. Apples are, of course, a speciality of the firm noted for introducing Bramley's Seedling. Among the novelties are Rev. W. Wilks, William Crump, and Ellison's Orange. A great future is predicted for Merryweather's Damson, said to be a wonderful cropper, having the true damson flavour, but as large as a plum in size.

H. CANNELL & SONS, Swanley, Kent, issue a very complete "Autumn Guide" for 1912-1913 which runs to over 100 pages. It deals with Cannas, Pelargoniums, Begonias, Carnations, and has a good list of general greenhouse plants. Herbaceous and Alpine plants, shrubs, roses, and fruit trees are catalogued. On page 77 are notes on how to plant fruit trees, from which we extract the following:—"It is almost a set rule that if an important root becomes injured or mutilated in the least by the tine of the fork going through, to cut it off, making a clean cut (this is thought to be so important) right up to the hard wood, and often a tree when placed on its bed to be planted has little else but three or four prong-like roots. This cutting is entirely wrong; instead, lay out the injured root with the greatest care, for if the parts only hang together with a bit of skin or bark they will soon heal and grow; therefore don't cut the root."

MESSRS. WELES & CO., LTD., Merstham, Surrey, send a descriptive catalogue of Chrysanthemums, Perpetual Flowering Carnations, &c. About 80,000 plants are grown of the Early-flowering or Border Chrysanthemums, and their numerous successes with the later ones are well known. To assist the amateur a figure is given of what is meant by first break, first and second crown, and what will be useful to all is, besides the description, the bud is also given on which to take the flower. The list also includes herbaceous and Alpine plants.

ALEX. DICKSON'S "HAWMARK" ROSE CATALOGUE is large of page, well printed, and easy of reference. The beautiful coloured plate of the Gold Medal Rose, "George Dickson," immediately arrests attention. The firm state that it is the best exhibition rose ever raised by them. A statement from a firm of such repute means a great deal. However, its great success wherever exhibited seems to justify this high praise. The catalogue contains nearly everything that is new and good in the rose world, while, of course, our old favourites are not forgotten.

MESSRS. FRANK CANT & CO., Braiswick Rose Gardens, Colchester, send their Rose Catalogue for 1912-

1913. Numerous medals, cups, and prizes testify to the fact that this well-known firm holds its own well in spite of the ever-growing keen competition. The lists of roses, in their various sections, are very full, and there is a good description to each variety. Some useful and practical hints on growing and pruning roses will be found in the catalogue.

MESSRS. WATSON'S FRUIT, ROSES AND SHRUBS FOR 1912-13 is a well got up catalogue, filled with many good things for the gardeners. A good list of apples and the usual kinds of fruit trees is followed by some sensible notes on planting and general culture. A good list of roses follows, including the popular section known as Wichuriana Ramblers. We hear that their new nursery at Killiney is making progress, and already some acres have been planted with young nursery stock. All communications should be addressed to the Clontarf office.

## The Toad Lilies.

ALTHOUGH the flowers of the *Tricyrtis* are not exactly showy, yet there is a quaint charm about them which always appeals to the true plant lover.

*Tricyrtis hirta* from Japan is perhaps the commonest,

and was introduced as long ago as 1863. Flower segments white dotted with large spots, the leaves softly hairy, broad at the base and tapering gradually to a fine point.

*T. latifolia* is a recent introduction from China. The leaves are broader than the last species, being nearly ovate, ending in a sharp point.

*T. macropoda*, a native of Japan and China, bears corymbs of whitish flowers, the segments freely marked with tiny purple dots. Leaves oblong, sharp-pointed, finely pubescent on the under surface.

*T. pilosa*, a Himalayan species introduced in 1851, bears corymbs of smaller flowers than the last named, while the dots on the segments are larger. The leaves are oblong, narrowed towards the apex, and ending in a fine point.

All the species grow about 2-3 feet high when doing well, and flower in summer and autumn.

Regarding cultivation—a light loam with a little peat mixed through it seems to suit very well, while shelter from cold winds is desirable, though it is probable all the species are hardier than is generally supposed. The writer knew a clump of *T. hirta* to flourish in an ordinary herbaceous border in Perthshire for years.

B.

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## Minimising the Loss caused by Potato Disease.

**I**N view of the prevalence of potato disease this year, a few suggestions may be made with regard to keeping the loss as low as possible. The disease, due to the fungus, *Phytophthora infestans*, is first noticed, as a rule, on the leaves and haulms in the form of dark spots or patches (surrounded very often by a little ring of white powder) which spread rapidly in a wet or moist season and soon destroy the whole of the plant above ground. The life-history of the disease has not been fully worked out, but it is almost certain that tubers are infected by the fungus mycelium making its way down the tissues of the haulm.

The longer the tubers remain in the ground the greater is the danger of their becoming diseased, and, as no growth of tubers can take place after the haulm has died, the crop should be lifted as soon as the skin will resist rubbing. The first effect of disease on the tubers is to cause the characteristic dark brown discoloration of the flesh; after the cells have been killed by the fungus, bacteria secure a hold and bring about the putrefaction and softening of the tissues, commonly referred to as "wet rot." It is possible, too, that the fungus (*Neetria solani*, Pers.) causing Winter Rot more easily attacks tubers affected by *Phytophthora* than it does healthy ones.

When the crop is lifted it would be highly desirable, if it were possible, to have all diseased tubers—even if only "just touched"—separated from healthy ones, but in most cases this is out of the question. Apart from the pressure of work during the potato harvest, the tubers in a bad season such as the present are too wet and dirty to make it possible to distinguish between the sound and the slightly affected. The difficulty can be got over to a great extent, however, by the plan adopted in some districts of placing the potatoes, as they are raised, in small temporary "pits" or "clamps," covered simply with straw, and leaving them in these until the pressure of work is over, by which time the tubers will have dried considerably. By sorting at this later stage before placing in the more permanent pits, there is not only less danger of sound tubers becoming infected in the pits, but a large bulk of slightly diseased potatoes will be obtained quite suitable for immediate use as food for stock, but which if left for even two or three months would become quite rotten and useless.

The construction of the pits or clamps has a good deal to do with the proper keeping of the tubers. In a wide, deep heap it is not easy for "steam" to escape, and in the present season it would be advisable to make the pits exceptionally narrow. Needless to say, the piece of ground selected as the site of the clamp should be as dry as possible; if it is not thoroughly dry and well drained, the floor of the clamp should be raised a little above the level of the surrounding ground rather than excavated even to the slight extent which is common.

The covering of the clamp is of great importance. In some parts of the country it is the custom after covering the heap of tubers with straw to earth it

completely over at once. Such a plan is decidedly bad, and certainly conduces to extensive rotting in the pit. Even in a small clamp there is a certain amount of "heating" probably chiefly due to the ordinary respiration of the tubers, and "steam" or "sweat" is produced particularly in the first few weeks. This heating can be shown by direct measurement, or it might be deduced from the fact that in ordinary circumstances potatoes dry in the pit. If the "steam" is confined by a close covering of soil, ideal conditions for the rotting of the tubers are secured. Ample facilities should, therefore, be provided for the escape of the "steam" during the first few weeks after storing; perhaps the best plan is the common one of leaving the ridge of the clamp covered only with straw. If good straw has been used and properly laid on, no water will find its way to the potatoes, and a complete covering of soil may be given before hard frost is expected. Some potato growers, even in parts of Scotland where severe frosts are experienced, leave the ridge without soil throughout the winter, simply putting on a layer of potato tops or of strawy manure when frosts are anticipated. This is probably carrying the principle further than necessary, and a better plan is to cover the clamps completely with soil after a month or so, leaving, at intervals of a few feet, ventilating shafts in the form of drain pipes or wisps of straw.

With regard to the condition of the tubers when put into the clamps, it is generally thought that they should not be too clean, as a little soil or sand adhering to them prevents them coming into too close contact and so minimises "heating" and the spread of rot from one tuber to another. In a season like the present one there is little danger of the tubers being too clean, and in many cases they will be very wet and dirty. In such cases, and always when diseased tubers are present, some growers adopt the plan of dusting a little lime among the tubers. Experiments carried out by the University of Leeds showed that when this was done the potatoes came out of the clamps in spring "very clean and bright," and though the lime did not prevent a diseased tuber decaying, it did prevent rot spreading from a bad tuber to those in contact with it. Ground lime (*i.e.*, ground quick-lime) proved to be much better for this purpose than slaked lime. It was found that the use of the lime was attended with the disadvantage that it seemed to encourage the early sprouting of the tubers, but this may be regarded as a small matter compared with the prevention of the spread of rot through a clamp, and the sprinkling of ground lime in the clamp at the rate of about 1 cwt. to every ton of potatoes is confidently recommended.

Flowers of sulphur, sprinkled over the tubers in the clamp at the rate of 2 lb. per ton of tubers, also destroys the fungus causing Winter Rot, and holds in check certain mites, woodlice, &c., which may otherwise convey the spores from one potato to another.—*From The Journal of the Board of Agriculture.*



A SECOND edition of 'The Story of my Rock Garden' has just been published. It is similar to the first with a few corrections, and is a useful book for the amateur.



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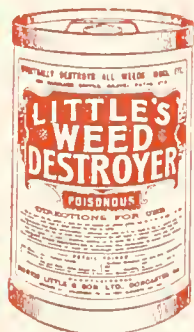
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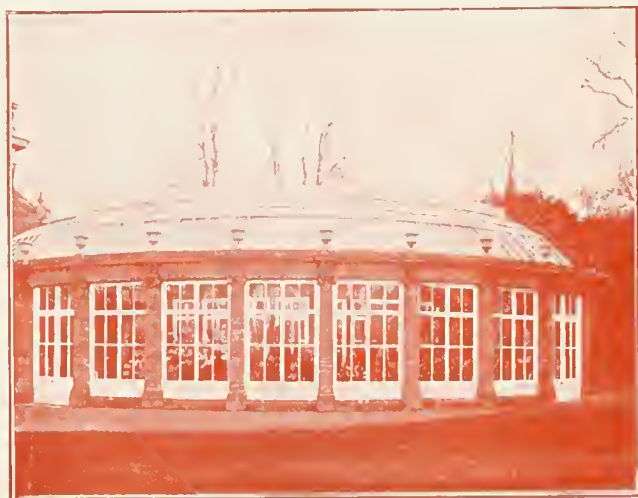


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Per dozen, **1/3**

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yellow Per dozen, **1/6**

**Princeps**, perianth pale sulphur, trumpet  
yellow Per dozen, **9d**

### NARCISSUS—All Extra Large Bulbs.

**Barri conspicuus**, soft yellow perianth,  
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**Pallas**, light lilac stripes on ground.  
Per dozen, **8d.**; per 100, **5/-**

**Scipio**, white, with purple base and lilac  
stripes. Per dozen **8d.**; per 100, **5/-**

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## Royal Horticultural Society.

By the kind permission of Viscount Iveagh, the Royal Horticultural Society held their Autumn Exhibition in the grounds of his Lordship's Green residence, on Tuesday, August 27th.

Favoured by a fine day, a large and brilliant gathering assembled, so that it became difficult to see the exhibits. In spite of previous wet weather the exhibits were of a remarkably high standard, and some stands were remarkably bright and pleasing. Great interest centred about the Sir James Mackey Challenge Cup for vegetable, Nathaniel Hone, Esq., St. Dolough's Park, Raheny, winning first with a strong collection.

Roses were clean, bright and fresh. Messrs. Hugh Dickson won the society's silver gilt medal and first for 72 roses, while Messrs. Alexander Dickson were first with a good stand of twelve new roses, in which their George Dickson figured prominently.

The Gladioli were quite an attractive feature. Messrs. Jones, Kilkenny, had a large group arranged artistically with Gypsophila, for which the society's gold medal was awarded, and Messrs. Hogg & Robertson received a silver medal for their group. Sir James Mackey, Ltd., displayed their special compost of Bulbolin and bulb-bowls in variety.

Messrs. Jameson & Sons received a gold medal for floral design; the model of a flying machine in flowers over the group attracted great attention.

Messrs. Drummond & Sons staged hardy flowers, shrubs, &c., with a miniature water garden containing many choice and rare plants; the group received the gold medal. Messrs. Ramsay & Son received a silver

medal for floral design, and a delightful collection of green house plants.

The large Paeony-flowered Dahlias of Messrs. Baker of Wolverhampton, gave a gorgeous bit of colour to one end of a tent. They were awarded a bronze medal.

## Shows.

The Co. Meath Agricultural Society held its annual show in the society's spacious grounds at Navan on Tuesday, August 6th. The previous Sunday was a deluge, for over two inches of rain fell on Saturday night and Sunday. In spite of such distracting circumstances there was quite a good lot of exhibits. Messrs. Watson's stand of Carnations attracted great attention—all genuine border varieties. A variety known as Dublin Pink made a good show. It is a strong grower, with the colour of Duchess of Fife. Scarlet Banner and Volunteer were very bright, and a good sweet-scented crimson was named Freedom. Mrs. Kearl, Lord Carew, Raby Castle and some yellow grounds were also well shown.

Mr. T. Smith's group of hardy plants and shrubs found many admirers. The large scarlet egg-shaped fruits of *Podophyllum Emodi* drew many comments and enquiries. The new *Hydrangea arborescens grandiflora* and the pretty pink *H. stellata rosea* were shown. *Hemerocallis fulva cyperiana* is a new form from Sprenger and quite pleasing. Among other things were *Astilbe Salmon Queen*, *Stenanthium robustum*, *Stokesia cyanea*, Geum Mrs. Bradshaw, *Campanula Isabel*, *Adenophora Potanini*, *Sparaxis pulcherrima*, &c. If the tent for the trade exhibits was rather larger, it would be a convenience for the visitors, and also would allow the exhibits to be seen to more advantage.

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No. 4½	size Bot.—3 oz., new size	4,000	1	8
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PRICES Half pint, 1/-; pint, 1 6; quart, 2 6; half gallon, 4 -  
gallon, 7 6; five gallons 25 -; ten gallons, 40 -  
1 gallon sufficient for 100 gallons of water

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Exceeds all others in General Fertilising Properties and Staying Powers.

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For Fumigating in Greenhouses.

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No. 1, for small frames of 100 to 600 cubic feet, 6d. each; Cone No. 2, 8d. each, 1,000 to 1,200 cubic feet; No. 3, 1s. each, 2,000 to 2,500 cubic feet.

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## Killarney Sweet Pea Society.

THE above society held their second annual show in the grounds of Killarney House, the Earl of Kenmare's beautiful demesne, on July 25th. The exhibition was a most successful one, and the quality of the exhibits was quite an eye-opener to the numerous visitors staying at Killarney that week. One spacious building was quite taken up with the classes for the favourite flower from which the society takes its name. In these classes competition was very keen, and some really magnificent collections were staged. This was especially noticeable in the class for the Muckross Challenge Cup (presented by Mrs. Vincent). The quality of the flowers shown in this class proved that the cultivation of the Sweet Pea has reached a very advanced stage in Co. Kerry. There were very few points between the first, second and third collections in this class, and the judges had no easy task in awarding the prizes; this state of things, indeed, obtained in most of the classes.

The show was by no means confined to classes for Sweet Peas, and the same high quality was apparent in the collections of annual and herbaceous flowers. In these the Earl of Kenmare excelled, whose gardener, Mr. A. J. Elgar, staged very fine collections in each case.

In the class for a group of plants in pots first prize was awarded to Mrs. Vincent (gardener, Mr. Nelson) for a tastefully-arranged exhibit of very well grown stove and greenhouse plants, the Earl of Kenmare being second.

The table decorations were quite a feature of the show, and the first prize-winner in this section (Mrs. MacGillycuddy) was also awarded the special prize for the best arranged exhibit in the show.

Vegetables were well shown by J. D. Crosbie, Esq., who won the prize offered by Messrs. Sutton and Sons of Reading, while the prize given in this section by Messrs. Jones of Kilkenny was awarded to Mrs. Palmer, Miss Godfrey being second.

The horticultural trade was well represented. Messrs. Bayler Hartland of Cork staged a most interesting collection of plants, chief amongst which were the Orchids, Carnations, and Alpines, for which they are well known.

Messrs. Jones of Kilkenny had a grand lot of Gladioli, consisting of most of the best-named varieties, some of the newer kinds being most striking; and Messrs. Alex. Dickson & Sons, of Newtownards and Dublin, showed a fine lot of Sweet Peas, and a most interesting collection of their Hawmark seeds in the early stages of germination. This latter exhibit attracted a good deal of attention, and must have been most instructive to a good many visitors to the show.

### PRIZE LIST.

Class 1: The Muckross Challenge Cup, presented by Mrs. A. Vincent, Muckross Abbey.—1st, Mrs. Leahy, South Hill, Killarney; 2nd, M. Collis Sandes, Esq., Oak Park, Tralee; 3rd, The Earl of Kenmare, Killarney House; 4th, Mrs. Rupert Colomb, Dromquinn, Kenmare.

Class 2: Special Prize given by Mr. and Mrs. Bourke, Killarney. 1st, The Earl of Kenmare; 2nd, Mrs. Leahy; 3rd, Mrs. Rupert Colomb.

Class 3: Special Prize given by Mrs. MacSweeney, Killarney.—1st, M. Collis Sandes, Esq.; 2nd, Mrs. Leahy; 3rd, Earl of Kenmare.

Class 4: Special Prize for 1911 and 1912 Novelties, given by Mrs. Low, Sillkhertane, Kilgarvan.—1st, M. Collis Sandes, Esq.; 2nd, Mrs. Leahy; 3rd, Mrs. R. McCowen, Cloghgers, Tralee.

Class 5: The Jones Special, given by Messrs. Jones, F.R.H.S., 68 High Street, Kilkenny.—1st, The Earl of Kenmare; 2nd (not sufficient entries)

Class 6: Special Prize given by Robert Sydenham, Ltd., Birmingham (rules not complied with).

Class 7: Given by Wm. Lumley & Co., Specialists, Dawn Nurseries, Hayling Island; 1st, Mrs. Leahy.

Class 8: Special Prize given by the Traders of Killarney.—1st, Mrs. MacSweeney, Park Place, Killarney; (no second); 3rd, Miss Godfrey, Aghadee Cottage, Killarney; (no fourth).

Class 9: For Amateur Members of the K. S. P. Society.—1st, Mrs. D. W. O'Brien, Killarney; 2nd, Miss E. Hussey, Aghadee House; 3rd, Mrs. R. FitzGerald, Ballyard, Tralee.

Class 10: For Amateurs, given by Messrs. Alex. Dickson, Ltd., Dublin.—1st, Mrs. Palmer, Abbeylands, Ardert; 2nd, Mrs. Britten, Tralee.

Class 11: For Amateurs, given by Wm. Power & Co., Waterford.—1st, Mrs. Britten; 2nd, Mrs. D. W. O'Brien.

Class 12: Best Single Bunch for effect, given by the same.—1st, Mrs. Palmer; 2nd, Mrs. MacGillycuddy, Ballinagroun, Anniscourt.

Class 13: Table Decoration.—1st, Mrs. MacGillycuddy; 2nd, Miss Russell, Killarney; 3rd, Miss E. Hussey.

Special Prize for greatest Number of Prizes in Sweet Pea Division, given by F. Collis Sandes, Esq.—1 first = 2 seconds, 1 second = 2 thirds.—Mrs. Leahy.

Class 14: Twelve Vases of Annuals, given by the Countess of Kenmare and Dowager Countess of Kenmare.—1st, The Earl of Kenmare; 2nd, J. D. Crosbie, Esq., Ballyheigue Castle.

Class 15: Herbaceous Challenge Plate, given by Major MacGillycuddy.—1st, The Earl of Kenmare; 2nd, Mrs. A. Vincent, Muckross Abbey; 3rd, J. D. Crosbie, Esq.

Class 16: Perennials and Annuals, for Amateurs, given by Major MacGillycuddy.—1st, Miss J. Hussey; 2nd, Miss M. Magill, Beaufort.

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1/2 cwt. 6/- 14 lbs. 3/6 7 lbs. 2/6 Tins 2/6 1/- and 6d.  
Carriage paid on 1 cwt. anywhere

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Class 17: Plants in Pots on space ten feet by four feet.—1st, Mrs. A. Vincent; 2nd, The Earl of Kenmare.

Special Prize for Best Arranged Exhibit in Show.—Mrs. MacGillycuddy, Table Decoration.

Class 18: Vegetables, given by Messrs. Sutton & Sons, Reading.—1st, J. D. Crosbie, Esq.; 2nd, Mrs. Leahy, 3rd, Lady Gordon, Ardeen, Carragh Lake.

Class 19: Vegetables grown by single-handed Gardeners or Amateurs, Silver Challenge Cup, given by Messrs. Jones, Kilkenny.—1st, Mrs. Palmer; 2nd, Miss Godfrey; 3rd, Mrs. Jenner Beaufort.

Class 20: Best Dish of Grapes.—1st, The Earl of Kenmare.

Class 21: Best Dish of Peaches.—1st, The Earl of Kenmare; 2nd, A. Vincent, Esq.

Class 22: Best Melon.—1st, A. Vincent, Esq.; 2nd, The Earl of Kenmare.

Class 23: Best Plate of Gooseberries.—1st, J. D. Crosbie, Esq.; 2nd, Lady Godfrey, Kileoleman Abbey, Milltown.

Class 24: Best Plate of Tomatoes.—1st, A. Vincent, Esq.

Class 25: Best Plate of Peas.—1st, J. D. Crosbie, Esq.; 2nd, Mrs. Leahy.

Class 26: Best Plate French Beans (none shown).

Class 27: Best Plate of Potatoes.—1st, A. Vincent, Esq.; 2nd, Mrs. Jenner.

Class 28: Cottagers or Artizans.—1st, Mrs. M. Doody, Muckross.

Class 29: Cottagers.—1st, Mr. L. Sims; 2nd, Mrs. Mangian; 3rd, Mr. T. Kevins. T. E. TOMLIN.

## Correspondence.

You will be pleased to hear that the Wichuriana Rose "Excelsa," "deep scarlet red," I planted last year in one or two places, has turned out very fine, wonderful double trusses of very dark colour most striking, also "Evangeline," single, flesh with pink centre, very fragrant sweet briar scent, about size of American pillar, hangs in fine trusses.—R. McS.

## Catalogues.

H. CANNELL AND SONS, the well known seedsmen and nurserymen of Swanley, have issued their Bulb Guide for the ensuing season. In it we note comprehensive lists of all sorts of bulbous, tuberous, and rhizomatous plants for autumn and spring planting. In it are also included lists of shrubs, &c., for forcing, vegetable seeds for autumn sowing, and various choice strains of flowers in seedling stage.

W. DRUMMOND AND SON, Ltd., the well known Dublin seedsmen and nurserymen, send their new Bulb Catalogue. It is amply and well illustrated, and gives excellent lists of popular bulbs at fair prices. Crocuses, Hyacinths, Daffodils and Tulips, as well as a large assortment of miscellaneous bulbs, tubers, and rhizomes, are offered in great selection. Forcing plants, roses, strawberries, table plants, and garden sundries are likewise included.

LITTLE AND BULANIANSE, CARLISLE, present their catalogue of Bulbs and Roses, &c. Good selections of bulbs, tubers, &c., are offered, also seeds for autumn sowing, both vegetables and choice florists' flowers. Roses, comprising well tried varieties, are offered in standards, half standards and dwarfs, garden sundries, insecticides, &c., are offered in great variety.

WILLIAM BAYLOR HARTLAND AND SONS have sent us the price list of Ard-Cann Daffodils and Cottage Tulips. Many beautiful novelties in Daffodils are on offer, ranging in price from £15 down to the modest shilling. The varieties are conveniently arranged in their respective sections, while the older and better known sorts are also in lists abridged for convenience. Tulips too are well represented, and the charming May flowering cottage varieties also appear.

S. McGREDY AND SON, PORTADOWN, offer in their new list a varied and representative selection of popular bulbs, tubers, &c. Cultural directions are given for outdoor planting and pot work, classified lists of bulbs for bedding, cutting, forcing, rockery planting, &c., are arranged, and should prove useful to amateurs. As befits the firm in question, a very full list of roses is included, many of the best varieties in all sections. A considerable list of herbaceous plants is included, together with a selection of hardy climbing plants.

## Notes.

FIVE GOLD MEDALS. At the leading horticultural shows which have been held in July in different parts of the country, Messrs. Sutton & Sons, of Reading, have been phenomenally successful. On each of the five occasions they have exhibited, the celebrated Reading firm have received the highest award, a gold medal—viz., on July 9th, Wolverhampton, for sweet peas; July 10th, Bath, for flowers and vegetables; July 17th, Cardiff, for sweet peas; July 19th, Birmingham, for flowers and vegetables; and July 23rd, at Brighton, for flowers and vegetables.

THE "SANITAS" COMPANY, LIMITED, have just received from the Royal International Horticultural Exhi-

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bition the diploma of honour, which, together with a silver gilt medal, was awarded to them at the Royal International Horticultural Exhibition, held at Chelsea, for their exhibit of "Sanitas Powder," the well-known dressing for garden and seed beds as a protection against the inroads of slugs and other garden pests.

## Dublin Wholesale Markets.

**O**WING to the unseasonable weather which has prevailed during July and August, apples are maturing more slowly than usual. As a result of this lateness, the supply in the earlier part of the month chiefly consisted of baskets of windfalls. During August the market is usually inundated with early varieties, but the prices which have been paid this season are a sure indication that the supply did not equal the demand. In the first week of the present month fruits of Warner's King were fetching a shilling a dozen, while a week later a few barrels of the same variety ranged in price from fourteen to sixteen shillings. At the present time the varieties Lord Grosvenor, Early Victoria and Grenadier are being forwarded, in addition to the one already mentioned. The supply of dessert apples is made up of consignments of the varieties Beauty of Bath, Irish Peach, and Mr. Gladstone, and for these there is an equally good demand. Pears and plums are arriving in large quantities from France and England, and meet with a good reception from buyers. Peaches and nectarines are liberally supplied, both from home and cross-Channel sources, and as a result prices are below the ordinary range for these fruits.

The supply of grapes is rather curtailed at present, and principally consists of produce from the South of England.

Cut flowers are not so plentiful as might be expected, but, doubtless, the inclement weather has caused a lot of injury to this trade. Sweet peas, roses and herbaceous flowers in variety are selling at a fair price. The presence of several bunches of Chrysanthemums amongst these summer flowers reminds us that autumn is with us once more. Good decorative sprays of

Gypsophila provoke keen bidding, and are always sure of commanding a good return.

Cabbages are now abundantly supplied, and prices have fallen in proportion.

Cauliflowers, however, are very scarce, as may be inferred from their unusually high cost.

Peas, which have been selling at a low price for some time, exhibit a tendency to become dearer. French beans have never really gone down to a normal figure this season, and at no time have they been plentifully supplied. Broad beans have been selling cheaply, but, owing to diminishing supplies, they are increasing in value. White turnips, parsley, and lettuce are very plentiful, and are hard to dispose of at a respectable price.

		From		To	
		s.	d.	s.	d.
FRUIT.					
Apples—Warner's King	per barrel	13	6	10	0
" Cooking	per float	2	0	2	9
" Dessert	per doz.	0	4	0	8
Grapes	per lb.	0	10	1	6
Melons	each	0	9	2	0
Nectarines	per dozen	3	0	4	6
Peaches	"	2	9	4	0
Pears—French	per case	2	6	4	0
" Irish	per ½ bushel	2	6	3	0
Plums	"	3	6	7	0
FLOWERS.					
Asters	per doz. bunches	1	6	2	0
Carnations	per doz. blooms	0	10	1	0
Gladioli	per doz. spikes	2	0	3	6
Gypsophila paniculata	per doz. sprays	3	6	3	9
Pyrethrum	per doz. bunches	2	8	3	0
Roses	per doz. blooms	0	4	1	0
Sweet Peas	per doz. bunches	1	6	2	0
VEGETABLES.					
Artichokes (Globe)	per doz. heads	0	10	1	6
Beans (Broad)	per float	1	0	1	3
" (French)	per ¼ bushel	1	3	1	9
Cabbages (York)	per load	6	0	10	0
Carrots	per doz. bunches	0	5	0	7
Cauliflowers	per doz.	2	0	2	6
Cucumbers	"	1	0	1	6
Celery	"	0	9	1	6
Lettuce	per tray	0	2	0	4
Mint	per doz. bunches	1	0	2	0
Onions (Tripoli)	per bunch	0	2	0	3
Parsley	per tray	0	3	0	4
Peas	per float	1	0	1	6
Rhubarb	per doz. bunches	0	9	1	0
Spinach	per tray	0	3	0	4
Tomatoes	per lb.	0	3	0	4
Turnips	per bunch	0	3	0	4
Vegetable Marrows	per doz.	3	0	4	0

21st August, 1912.

A. C.

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<b>TULIPS</b> , double, in the finest mixture ... ..	2 2	20 0
<b>ANEMONES</b> , single mixed ... ..	1 6	14 6
<b>ANEMONE</b> , The Bride, pure white ... ..	1 6	14 6
<b>CROCUS</b> , first size, in the finest mixture ... ..	1 6	14 6
<b>CROCUS</b> , second size, in the finest mixture ... ..	1 0	9 0
<b>SCILLA SIBIRICA</b> , rich blue ... ..	1 6	14 6
<b>IRIS</b> , SPANISH, mixed ... ..	0 8	5 6
<b>IRIS</b> , ENGLISH, mixed ... ..	2 0	16 8
<b>NARCIS</b> , single, in the finest mixture ... ..	1 4	12 6
<b>NARCIS</b> , Trumpet, in the finest mixture ... ..	2 0	20 0
<b>NARCIS</b> , double, fine mixture ... ..	2 6	20 0
<b>NARCIS</b> -POLYANTHUS, finest mixed ... ..	3 6	30 0
<b>SNOWDROPS</b> , ELWESI, The Giant Snowdrop ... ..	1 6	13 6
<b>RANUNCULUS</b> , FRENCH, double mixed ... ..	0 9	7 0
<b>SCILLA CAMPANULATA</b> , and Blue Bells ... ..	2 0	—
<b>SCILLA CAMPANULATA</b> , white ... ..	2 0	—
<b>SCILLA CAMPANULATA</b> , mixed ... ..	1 6	—
<b>TRITELEIA UNIFLORA</b> , ... ..	1 0	—

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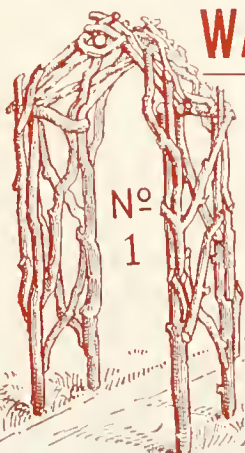
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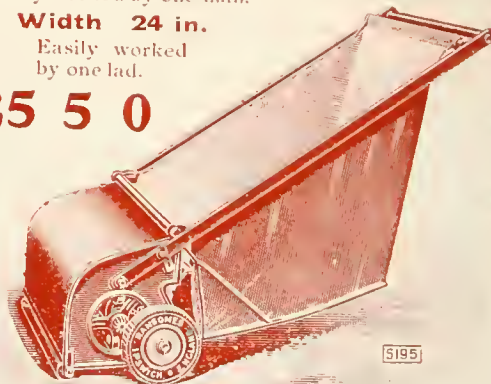
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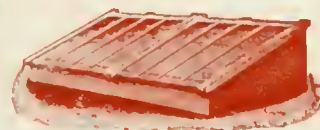
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## The Green Plant-Bug.

*Lygus pabulinus* (Linn).

**E**ARLY in August specimens of this insect were received from Monaghan, with the information that they were very destructive to rose-buds and to young shoots. My correspondent, (Dr J. C. Hall) wrote:—"They have done more damage to my roses this year than aphids and grubs combined, for once they attack a shoot it seems to stop growing, and seldom or never forms a flower-bud."

The plant-bugs belong to the same order (Hemiptera) as the well known "greenfly" and scale insects. But while the latter are members of the sub-order Homoptera—in which the fore-wings do not usually differ markedly from the hind-wings in texture—the plant-bugs are included in the sub-order Heteroptera, in which the fore-wings are usually divided into distinct areas, most of which are firm and protective in function. The present species belongs to the family Capsidae, which comprises most of the Heteroptera found in Ireland. Most of the Capsidae feed by sucking the juices of plants (in all the Hemiptera there is an elongated, jointed grooved beak or rostrum in which work two pair of piercers), but they rarely attract notice by seriously damaging cultivated plants.

*Lygus pabulinus* may be distinguished by its green colour, its very long and slender feelers, the incomplete keel across the vertex of its head (visible only at the sides near the eyes), and the very fine and minute spines on the shins. It grows to a length of 6 mm. (about  $\frac{1}{4}$  inch). In Ireland it is a common and widely spread species, found on many kinds of low-growing plants.

On account of the cuticle of these plant-bugs being much firmer and more resistant than that of the aphidae or "greenfly," the quassia or paraffin wash that is effective as a contact poison in killing the latter insects will here be of little use, except perhaps against the youngest stages. Like most of the Hemiptera, these plant-bugs go through no marked transformations; the young resemble the adults, except for the absence of wings, which are gradually acquired during the stages of growth, throughout which the insect is active and continues to feed by suction. In the United States, where several insects of this group are injurious to foliage, the entomologists recommend that the insects be shaken off the plants and be caught in vessels of paraffin and water.

## The Onion Fly.

*Hylemyia antiqua* (Meig). (= *ceptorum*, Meade).

**F**OR the present record of serious damage to onions in the west of Ireland by the maggots of this well-known species we have also to thank Dr. G. H. Pethybridge, who forwarded many specimens of the insect in its various stages during September and October.

The fly is closely allied to the cabbage fly (*Phorbia brassicae*). The onion fly is about 6.5 mm. ( $\frac{1}{4}$  inch) long slightly larger than the cabbage fly. As in that species the male has a parallel-sided body, which is dark grey in colour, with four longitudinal brown stripes on the thorax, and a series of triangular black spots on the abdomen. The male onion fly differs from the male cabbage fly in not having the conspicuous tufts of black bristles at the base of the hind-leg, which distinguishes

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the latter species. The female onion fly is paler than the male, with the eyes more widely separated and the abdomen pointed. She lays her eggs in April and May on the neck of the onion or on the leaves just above the surface of the ground. The young maggots are hatched about a week after the eggs have been laid, and eat their way between the sheathing leaves and into the bulb. In about a fortnight or three weeks after hatching the maggot is fully grown, having attained a length of 8 mm. ( $\frac{1}{3}$  inch). Like other maggots of its family (Anthomyiidae) and the muscoid flies generally, it is soft and white, with mouth hooks at the tapering head end for tearing up the food, and a pair of spiracles or air-holes, each with three slits, at the tail-end. The spiracular area is surrounded with conical prominences which differ from those in the corresponding region of the cabbage maggot in the hindmost pair not being bifid. The brown puparium is usually found in the soil, and from it the perfect fly of the next generation emerges in another fortnight. There are several successive broods during the summer and autumn, and as the onions increase in size each may harbour a number of maggots, which eat up the internal tissue and render the entire bulb rotten and useless. They are often found as late as November and December. In these countries the pupa is believed to be the wintering stage, but Smith and Dickerson state that in the United States the insect hibernates as a perfect fly.

On account of the burrowing habits of the maggots, it is almost useless to apply insecticides to kill them. Badly infested onions should be lifted and burned, and the cultivator must turn his attention to methods of prevention. Earthing up the onion plants prevents the fly from laying her eggs. So do dressings of kainit or watering with paraffin emulsion (three pints of paraffin,  $\frac{1}{2}$  lb. of soft soap and a gallon of boiling water, with seven or eight gallons of soft water subsequently added). According to the experiments of Smith and Dickerson

the most effective dressing is a compound of carbolic acid and lime. This is made by slaking three pints of lime with a gallon of water, and adding a tablespoonful of crude carbolic acid. The mixture must be watered around the plants, so as to form a crust extending over the surface of the soil, and closing around the plant-bases. — PROF. G. H. CARPENTER in *Economic Proceedings of the R. D. S.*

## The Dublin Autumn Show.

NOTES AND NOTIONS.

WITH weather worries getting worse, as Dublin's autumn event approached, everybody said there would be nothing to show, and what everybody says must be, of course, true. Had it been only exhibitors who said it, that would be another story. We know them of old—"Blown down with wind;" "cut up by frost;" "the best over;" "the best to come," and a dozen little distractions to draw other dissemblers off the track, too wily to be drawn. But, what everybody says must be true, and to prove the rule, everybody said so and truth prevailed (*magna est veritas*)—in the exception. "How did they manage it?" was the question asked by more than one interested visitor in looking at the gay Gladioli, Regal Roses, bright border flowers, brilliant Begonias, delightful Dahlias, and all the things which go to make an excellent autumn show. We do not know, but they did. Your old exhibitor is prone to answer foolish questions with a supercilious smile and silent contempt. And, what a gathering—with half a mile, more or less, of motor cars lining the approach! Even the very turnstile, used to long rests in its clicking anatomy, jibbed at the strain imposed by a long, broad queue,

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possessing their com in patience, while furious officials poked and prodded at its vitals. And, then, when it went clacking merrily on again, officials were asking what would it have been the day before when Messrs. Jupiter pluvius and J. tonans helped each other to flood Lord Iveagh's fine grounds; or, even the day after? But it was neither before nor after this 27th day of August, with its record attendance, barring those all too rare royal visits in the history of the ancient society.

But to the show. "Plants" not easy to find them, for the show-plant of former days has grown smaller by degrees, till it is now a negligible quantity. However, we never saw better Zonals, and the half-dozen from Damm could not be beaten, were not, in fact; Coleus, too, were captivating. The new class for British ferns—things not much known nowadays—ought to become popular, for the simple reason that they are within the power and scope of any amateur, or even a town gardener, to do them—and heigho! for fifty years ago, when they were a power in the gardening world. Tell it not in Gath, that even some of our up-to-date, go-ahead gardeners, when criticising the Rev. H. Kingsmill Moore's crested and plumose half dozen, were dubious as to their Britishness. The last Rose of Summer ran well for Dublin and rather rubbed out Kildare. Dahlias were delightful, for the season; and how nice it was to again see that dear, vulgar old show Dublin, with its perfection of form and suggestiveness of the Wiggles family, as a cut flower in the house. Begonia blooms were tip-top for any season, and Carnation competition seems coming on. Asters were the worst we ever saw at any show or at any season, but Sweet Peas were excellent—some of them. The thirty classes for fruits and vegetables seemed very well filled, and it is a long time since we saw as many grapes staged in Dublin for competition, and of fair

quality, too; for, be it known, we are not inclined to point quite as high in our praise as if viewed through the prizeman's spectacles, which have the optic illusion of showing such size, bloom, and finish as we were prone to see without this second sight, when Coleman of Eastnor Castle won hands down wherever he went. The same with peaches. But why—oh why, ye powers that be!—was the fine dish of Golden Drop plums shut out of competition for want of a class for it? An oversight in schedule-making, surely. Criticism, if destructive and not constructive, is often useless, and perhaps worse; hence, with all the rashness of youth, we just flash off things as they appear to us from the dual point of view. The collection of fruit staged by Alderman Bewley as an extra, not for competition, was sufficiently impressive and stand-outish as to impress us that a class for similar collections, provided the prizes were worth competing for, would considerably help an autumn show and make a valuable and distinctive feature. Dishes in this collection, by the way, were more or less of high merit in analysing its component parts—mostly more, a few less.

With fourteen dishes of peaches, sixteen of nectarines, quantity rather than quality seemed mostly in evidence. A score of melons, comprising two classes, spoke up very well for themselves. Dessert apples filled their classes excellently; all of this section indeed appeared an improvement, as did the collections of vegetables competing for the Mackey Cup, verifying our prediction that it would be a fine fertiliser. As for trade exhibits, really our floral artists soared high, notably where an aeroplane spread its wings. This, however, is higher art than we can touch, and, descending to *terra-firma*, the Kilkenny Gladioli rang a gladsome note, especially in the noble America. Messrs. Drummond's new departure on land and water was effective, although, had it been a drier season, we

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should have liked a little more of the latter, with amplified aquatic planting. As for the rest, it is a memory of the *utile dulci* from the Royal Nurseries, Ballsbridge. Hawtmark seeds, germinating as gaily as if they were sprouting in spring instead of mellow autumn, and the Mackey collection of bulb bowls and Bulbolin should give an impetus to this new and cleanly cult.

QUIZ.

## Royal Horticultural Society.

THE monthly meeting of the council was held at the society's offices, 5 Molesworth Street, Dublin, on the 13th ult., Alderman Bewley presiding. Balance sheet and accounts in connection with the recently held autumn show were submitted and approved, the accounts, including the prize money, being ordered for payment. Admissions to the show as verified by tickets and at the turnstiles amounted to 2,482, with gate receipts considerably larger than at similar functions of late years. The Schedule Committee was instructed to prepare draft schedules for an autumn show and a winter fruit and flower show to complete next year's programme, the spring schedule having been already arranged and advance copies sent to exhibitors. Colonel Hartley, Beech Park, Clonsilla, was elected a member of the Society. A vote of thanks, with a cultural certificate, were unanimously voted to Messrs. Charles Ramsay & Sons for a collection of Cactus Dahlias and several fine varieties of the new Paeony-flowered Dahlias sent in from the Royal Nurseries, Ballsbridge.

## Catalogues.

BULBS FOR GARDEN AND GREENHOUSE is the title of an autumn catalogue issued by Sir James W. Mackey, Ltd. It is a well illustrated and interesting list, for it is descriptive, and also good cultural directions are given to all the popular families of bulbs. The culture of Hyacinths in pots, in water and in beds, is set forth. Tulips, Narcissus, Spireas, Grape Hyacinths, in fact all the spring-flowering bulbs and roots, both common and uncommon, may be found in the list at very reasonable prices. Their speciality of Bulbolin may be recommended to those who wish to grow bulbs or tubers in ornamental vases for the decoration of the house.

WATSON'S REAL BORDER CARNATIONS is a good descriptive list of Carnations which flourish as hardy border plants in the Clontarf Nurseries, and are not plants grown under glass and shown as border varieties. The list is a very complete one, including the best varieties. Dublin Pink is a variety we have noted as doing well this season. At the end of the list some indoor American varieties, Pinks, and popular spring flowers are given, with some cultural notes on the Carnation. We note that Messrs. Watson have purchased the interest in Kilbogget Farm, Killiney (consisting of 148 acres), for the development of their nursery business. Already some acres are planted with young nursery stock, and in the immediate future they purpose growing largely increased quantities of all nursery requirements at their Killiney branch.

MESSRS. EDMONDSON BROS. send their autumn catalogue of Bulbs and Flower Roots. It is a well printed and illustrated list, and contains a selection of

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the varieties of the Hyacinth, Narcissus, Anemones, Crocus, Gladiolus, Lily, Tulips, and other bulbs and tubers which may be planted at the present time. This firm makes a speciality of bowls for cultivating bulbs in fibre, and also prepares a fibre in which to grow the bulbs. If the directions given are followed, good results should ensue. A cheap offer of bulbs is made which should be useful for naturalising. Spanish and English Iris are extremely cheap bulbs which should be planted in almost all gardens.

The well known Dutch firm of Anthony Roozen and Son send a copy of their catalogue of Bulbs and Herbaceous Plants. Collections of bulbs are offered, and bulbs for naturalising in large or small quantities. This list is a very comprehensive one and descriptive. Throughout the ninety-five pages, much useful information will be found relating to bulbs and tubers for present planting, and there is also a very fine list of herbaceous plants. The catalogue may be obtained post free from the London agents—Messrs. Mertens & Co., 3 Cross Lane, St. Mary-at-Hill, E.C.

BEES' Guaranteed Bulbs is the name of the Bees' new Bulb Catalogue for 1912. On the opening page is a fine illustration of their new yellow-flowered *Incarvillea lutea*, found by their collector in China, and an interesting account is given of how bulbs are grown in Holland. The list runs to eighty pages, and is not confined to bulbs, but includes some tuberous-rooted and some autumn- and winter-flowering plants. All the well known bulbs are offered in large and small quantities at very reasonable rates, and those who seek rare bulbs will find many good things by looking through the pages. An illustration of the branching Tulip may be seen, and such gorgeous species as *T. Fosteriana*, *prestans*, and *Kaufmanniana* are catalogued. The illustrations are good and plentiful, and many of the descriptions are quite original.

From the Lissadell Bulb Farm comes a price list of Daffodils. This list includes most of the best of new and old Daffodils. Too many varieties are being named which are so much alike, or are in no way better than the older sorts, and so that we are pleased to see that at Lissadell the varieties are being tested. Their opinion of each sort is given after the description, helping the purchaser to know whether the variety is good for grass, pots or for beds. The catalogue contains some fine illustrations.

MESSRS. ALEX. DICKSON send their 1912 "Hawthorn" Bulb Catalogue. In it will be found directions for growing bulbs in bowls for house decoration. The list describes all the best kind of bulbs suitable for the garden. This firm has also a good collection of Darwin Tulips, and towards the end will be found a list including the best of these and other sections of this most popular flower. Collections of Sweet Peas will be found on the last pages.

H. W. CHURCHMAN, F.R.H.S., Sawston, Cambs., sends a select and descriptive list of Sweet Peas for this autumn and 1913. Mr. Churchman makes a speciality of Sweet Peas, and says that every seed sent out is grown on his own grounds under his own supervision, and no faulty plant is allowed to seed. An illustration shows how valuable and floriferous are the autumn-sown Sweet Peas. A gold medal is offered for competition, and novelties for 1913 include Beatrice Wright, Connie Ellis and Alfred Challis.

THE ROYAL ISLAND NURSERY CO., Hillegom, Holland (see advertisement in September IRISH GARDENING), send their catalogue of Dutch Bulbs. It includes numerous varieties of Hyacinths, Tulips, Iris, Narcissus, Crocus, Anemones and miscellaneous bulbous and tuberous plants. All are offered at reasonable rates, and the firm sends out collections of bulbs either for the greenhouse, for forcing, or for growing in the open garden.

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kills weeds on walks, and keeps them bright and clean.

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## Dublin Wholesale Markets.

**A**T the present time the disposal of fruit engages a very large portion of the salesmen's attention. Apples are arriving in large quantities, and the general expression of opinion indicates that this most important fruit does not come up to the average quality of last year's crop. On many occasions during this month the markets have been overstocked with apples of an inferior quality, and for consignments of this type poor prices have been obtained. It is satisfactory to note, however, that first grade apples are commanding a good return; but when compared with the amount of other apples present, it will be observed that first quality apples comprise a very small percentage of the whole. Excellent prices have been obtained for graded apples marketed in trays, which hold from three to four dozen fruits. This method is preferable to the marketing of choice fruit in floats, as there is then less chance of injury by bruising, and each apple is exhibited to the view of intending purchasers. Apples in barrels are now becoming more plentiful, the variety Grenadier being most in evidence and first in the public esteem. Good dessert home grown pears are not at all plentiful, but cookers and mixed lots are liberally supplied. Judging by the appearance of the fruit sold in the markets, it is evident that apple and pear scab has been particularly rife this season. Pears from France are now being received in moderate quantities. These are neatly packed in boxes holding three dozen fruits, and present a very attractive appearance. The supply of plums is almost finished for the season. These have been sold in large quantities this month, but the quality is disappointing, the fruit possessing little flavour. Damsons have been an extra crop this year, and the supply has greatly exceeded the demand. Grapes are being largely supplied from cross-Channel sources, and as home producers are also forwarding in smaller quantities, this fruit is selling much more cheaply than usual. Blackberries are being sold in small quantities, but owing to the cold season the berries present a shrivelled and stunted appearance.

The flower trade at the present time is by no means brisk. Asters, Cornflowers, Helianthus, and Sweet Peas are abundantly supplied; but as the demand for flowers of this class is weak, unprofitable prices are being obtained. Violets, Carnations, and Roses are more eagerly sought after on account of their adaptability for florists' work.

Vegetables have been very plentiful this month and prices show an all-round decrease. French beans are gradually falling off, and scarlet-runner beans are taking their place. Brussels sprouts made their first appearance in the earlier part of the month, and though of good quality, met with a poor reception. Cabbages and cauliflowers are extremely plentiful, so that growers have to be satisfied with very low prices. Celery is not yet over-plentiful, but the quality is superior to that of last year's crop. The bulk of onions now on sale are not of first-rate quality, and the prices realised are unprofitable. Potatoes are commanding high figures, and it is to be feared that owing to the wet summer and the ravages of the blight the crop this year will be much below the average. White turnips, parsley, and spinach are plentifully supplied, while they do not seem to be much in demand.

PRICE LIST FRUIT.		From	To
		s. d.	s. d.
Apples—Grenadier	per barrel	11 0	14 0
" Cooking	per tray	1 6	2 3
" Dessert	per doz.	0 4	0 9
Blackberries	per basket (5lbs.)	0 10	1 0
Damsons	per bushel	4 3	4 9
Grapes—Black Hambro,	per lb.	0 6	1 0

FRUIT—on.		From	To
		s. d.	s. d.
Melons	each	2 0	3 0
Pears—Fertility	per ½ bushel	2 0	2 6
" French (Clergots)	per 3 doz.	2 9	3 0
Plums—Victoria	per ½ bushel	1 6	2 0

FLOWERS.			
Asters	per doz. bunches	0 6	0 9
Carnations	"	1 4	1 8
Chrysanthemums	"	0 6	0 9
Helianthus	"	0 8	1 0
Sweet Peas	"	1 0	1 3
Stocks	"	9 4	0 6
Violets	"	0 6	0 9

VEGETABLES.			
Beans (Kidney)	per tray	1 3	1 6
" (Scarlet Runner)	"	0 8	1 0
Brussels Sprouts	per float	1 0	1 6
Cabbages (York)	per load	5 0	10 0
Carrots	per doz. bunches	0 6	0 7
Cauliflowers	flasket	1 0	2 0
Celery	per bunch	1 0	1 9
Cucumbers	per doz.	1 9	2 0
Lettuce	per tray	0 2	0 3
Mint	per large bunch	0 3	0 4
Onions	per bunch	0 3	0 4
Parsley	per float	0 2	0 4
Parsnips	per doz. bunches	0 9	1 0
Spinach	per tray	0 2	0 4
Thyme	per doz. bunches	0 8	0 10
Tomatoes	per lb.	0 3	0 4
Turnips, white	per bunch	0 2	0 3
Vegetable Marrows	per doz.	2 0	3 0

21st September, 1912.

A. C.

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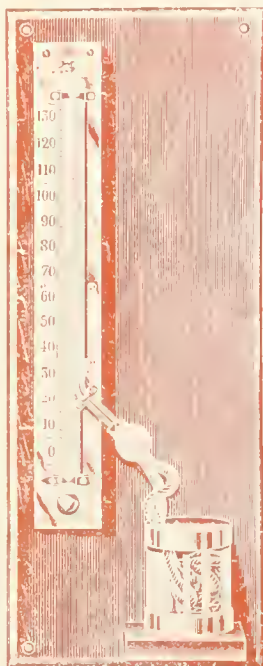
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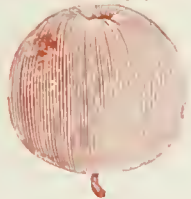
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## Winter Spraying of Fruit Trees.

THE following extracts are from the "Spraying Calendar," given by Professor Pickering, M.A., F.R., Director of the Woburn Experimental Fruit Farm, and F. V. Theobald, M.A., Vice-Principal, South Eastern Agricultural College, Wye, Kent, in their very useful handbook, "Fruit Trees and their Enemies." (Copies of this book can be had post free for 1s. 9d. each.)

"Apart from the consideration of the direct action of a winter wash in destroying various pests which are probably present, moss, lichen and dead bark must always accumulate, and the freer trees are kept from these the healthier they will be, and the less will be the opportunities afforded for insects to flourish on them."

"From January to March.—Spray trees with a caustic paraffin emulsion for cleansing them of dead bark, and destroying moss, lichen, mussel scale, small apple, ermine moth, gooseberry and currant scale, gooseberry spider, currant shoot and fruit moth, pear leaf, blister mite, and possibly other insects."

"Winter spraying is now resorted to by practically every up-to-date fruit grower. The formula most recommended for Winter Spraying Emulsion is as follows:—Soft soap,  $\frac{1}{2}$  lb.; paraffin (solar distillate), 5 pints; caustic soda, 2 to 2 $\frac{1}{2}$  lbs.; water, 9 $\frac{1}{2}$  gallons. The necessary articles for this and all other Spraying and Fumigating Mixtures can be had, with directions for mixing, from D. M. Watson, M.P.S., Horticultural Chemist, 61 South Great George's Street, Dublin. Phone 1971.

## Correspondence.

SIR. In your issue of November Mr. Bedford states that in advising bulbs in bowls being put in the dark, I have "exposed the old skeleton in the cupboard once more." There is usually more than one method of doing a thing, and if Mr. Bedford considers his plan so much better than mine, it is a pity that he did not earlier in the season give the readers of IRISH GARDENING the benefit of his experience. He must know as well as others that November is late for planting bulbs, and also that in November the best bulbs have been sold out. My method has given entire satisfaction, and I have suggested to others to try it for themselves. Sunny windows, greenhouses, and frames are not always available, and my "hints" are for those who have to make shift with what is already there. I made no mention whatever of Hyacinths in glasses. Hyacinths are stiff at the best of times, but when suspended in glasses they lose all beauty they ever had. Why does Mr. Bedford bother to grow bulbs in fibre and bowls when he has every means available for growing them to perfection in good soil and pots?

R. M. POLLOCK.

SIR,—I have read with much interest Mr. Moeran's article in the November IRISH GARDENING. I can confirm his facts, but can give no reasons. On the high plateau between Macgillecuddy's Reeks and the sea I left my car on the road to examine a high bank of turf being cut. What surprised me were fallen trees with all their branches on which had grown on pure gravel. Over these trees were several feet of black bog nearly as

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hard as coal. On that was a new surface where trees growing, and these had been cut with axes, leaving a stump of a foot or so high. On this, another series of bog now so hard, and on that another surface where trees grew. Unfortunately the bog did not appear to be growing, to on the surface were the usual bog cotton, cranberries, and other wild plants. Some who may some day explain why bogs grow, and how they originate.

C. G. Goss.

A CORRESPONDENT writes: "One thing that should not be countenanced in the Irish Shows is that of growing indoor grown apples and pears against the outdoor produce. It gives the man with glass a great advantage for the indoor fruit, with their good colour, usually well in competition with the outdoor produce. It seems desirable that the orchard house fruit should be kept in a separate class from the outdoor apples and pears as in the best Scotch and English Shows."

## Royal Horticultural Society.

At the monthly meeting of the council held at the offices, 5 Molesworth Street, Dublin, on the 8th ult., the following resolution, which had been passed at a meeting of the Irish Seed and Nursery Trades Association, was read, viz.: "That the Irish Seed and Nursery Trades Association's offer of that exhibits of

artificial or preserved flowers should not be permitted at Irish horticultural shows, and that the council of the R.H.S.S. should be respectfully requested to discontinue allowing such exhibits at their shows." This recommendation, being considered, was unanimously adopted. Preliminary arrangements were made for holding the annual general meeting during the second week in December, when, it is now decided, will be held in the society's offices, 5 Molesworth Street, on Thursday, the 12th inst., at 3 p.m., when Lord Frederick FitzGerald, in the unavoidable absence of the President Lord Ashmole, will preside. The following comprise one-third of the council members who, according to Rule XIV., retire this year, and are eligible for re-election viz.: Sir Frederick W. Moore (hon. sec.), F. F. Crozier, G. M. Ross, M.A., H. P. Goodbody, R. Anderson, W. F. Gunn, O'Donell Browne, M.D., and W. J. Mitchellson. In pursuance of a resolution adopted by the council, a return showing the attendance of each retiring member at council meetings for the last three years, with attendances at committee meetings for 1912, has been sent on the 15th ult. to all members of the society. The balance sheet of the Irish Cup presentation to the Royal International Horticultural Exhibition was received, post audit, from Sir Frederick Moore (Hon. Sec. for Ireland), and approved, the results showing that an additional piece of plate had been given to the above, as well as a substantial balance being presented to the Ulster Rose and Flora Society, being considered eminently satisfactory.

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## Belfast Show.

THE annual show of the Ulster Horticultural Society was held on the 12th and 13th November at St. George's Market, Belfast, and was a decided success. The various sections, with the exception perhaps of the farm produce classes, were well represented by meritorious exhibits. The show provided a rare treat for Belfast people, who on their part support the fixture in a praiseworthy manner.

The most striking features may be briefly enumerated as follows:—The floral displays of the Belfast seedsmen, which showed great artistic skill and originality; exhibit of Chrysanthemums by John Jameson, Esq.; group of plants shown by Frank Workman, Esq.; exhibit of vegetables by the Duke of Portland; the tables of fruit shown by W. H. McLoughlin and Mr. Wm. Coffey. These exhibits commanded much attention, but, taken on the whole, there were very few exhibits of an inferior description.

The placing of the different sections left little to be desired, and the commodious buildings looked very gay and attractive. Ample space was left for the large numbers who patronise the show to inspect and view the exhibits. A glance at the prize list shows that most of the prize fruit came from the sunny south. The fruit staged by Mr. A. G. Bowers, Mooncoin, and the Earl of Besborough, Piltown, was really excellent. The nurserymen's exhibits were very instructive and interesting. The group of Conifers and shrubs staged by Messrs. Hugh Dickson & Sons, Belmont Nursery,

Belfast, showed great variety and quality, and was much admired. Messrs. Alex. Dickson had a gorgeous stand of floral devices, each of them a triumph in florist's art.

The stand of the Department of Agriculture and Technical Instruction was well patronised during both days, and inquiries were made on fruit growing and kindred subjects.

The following is a list of first prize winners in the fruit section:—

**COLLECTIONS OF FRUIT.**—Class 43, 24 dishes—Mr. Wm. Coffey, Newmarket-on-Fergus, Co. Clare. Class 44, 12 dishes—Earl of Besborough, Piltown, Co. Kilkenny. Class 46, 6 dishes—A. G. Bowers, Mooncoin, Co. Kilkenny. Class 77, 18 dishes—A. G. Bowers. Class 78, 12 dishes—James Kennedy, Castletown, Co. Kilkenny. Class 79, 6 dishes—Miss B. Halpin, Knocknagun, Co. Clare. Class 67, 6 dishes of Pears—Alderman Bewley, Dublin. Single dishes of fruit, Cox's Orange Pippin—F. W. Finlay, Ligoniel, Belfast; Blenheim Pippin—Miss B. Halpin, Co. Clare; Ribston Pippin—Miss R. McNamara, Newmarket-on-Fergus; Allington Pippin—Lord Carew, Castleborough; James Grieve—Earl of Erne, Crom Castle; Gascoyne Scarlet—A. G. Bowers; Charles Ross—Earl of Erne; Rival—Mrs. O'Donnell, Linnakelly, Co. Kilkenny; Warner's King—Mrs. O'Donnell; Peasgood's Nonsuch—Lady Fitzgerald, Newmarket-on-Fergus; Bramley Seedling—Fitz. A. W. Scott, Newmarket-on-Fergus; Lane's Prince Albert—Mrs. O'Donnell, Linnakelly; Bis-

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marck—E. Cooney, Kells; the Queen—A. G. Bowers, Mooncoin; Lady Henniker—Fitz. A. W. Scott; Royal Jubilee—W. H. McLoughlin, Macedon; Newton Wonder—Lady Fitzgerald, Newmarket-on-Fergus.

**CUT FLOWERS.** The following were the first-prize winners:—Fifteen vases Japanese blooms, 3 blooms of each variety—John Jameson, D.L.; St. Marnecks. Ten vases Japanese blooms, 3 blooms of each variety (confined to Ulster)—Countess of Caledon. One vase, 5 blooms, any variety, white—John Jameson, D.L. One vase, 5 blooms, any variety, pink—John Jameson, D.L. One vase, 5 blooms, any variety, yellow or bronze—John Jameson, D.L. Twenty vases single Chrysanthemums, distinct varieties—Colonel R. G. Sharman-Crawford, D.L.; Crawfordsburn. Ten vases single Chrysanthemums, distinct varieties—Herbert Brown. One vase single Chrysanthemums, any variety, white—Colonel R. G. Sharman-Crawford, D.L. One vase single Chrysanthemums, any variety, pink—Colonel R. G. Sharman-Crawford, D.L. One vase, single Chrysanthemums, any variety, yellow or bronze—Herbert Brown. One vase single Chrysanthemums, arranged for effect—Charles Duffin. Forty-eight Japanese blooms, to be shown in boxes, 36 varieties, 2 of any variety—John Jameson, D.L. Four vases winter-flowering Carnations, distinct varieties—P. Kerr-Smiley, M.P. Basket of Chrysanthemum blooms, artistic arrangement (amateurs)—P. Kerr-Smiley. Twelve Zonal Geraniums, dissimilar—Mrs. Mont-

gomery, Ballydrum, Dummurry. Basket of Chrysanthemum blooms, artistic arrangement (ladies)—Mrs. Hughes, The Ingles, Greenisland. Floral decorations for dinner table, 8 x 4 feet (ladies)—Miss Winnie Smiley. One bride's bouquet—Messrs. F. E. Smith & Co. One bridesmaids bouquet—Messrs. A. Dickson & Sons. First-class certificate—Messrs. W. Wells & Co., Mersham, Surrey.

**VEGETABLES.** The following were the first-prize winners—Collections of vegetables, 12 kinds, 4 x 6 feet—Duke of Portland, Welbeck Abbey, Worksop. Collection of vegetables, 6 kinds, 3 x 4 feet—Herbert Brown, Rathmoyle, Helens Bay. Six onions—Duke of Portland. Six leeks—Nathaniel Hone. Six white celery—Mrs. Cowan. Six red celery—Lord O'Neill. Four pots parsley—James Hay, Derryboye, Crossgar. Four cauliflowers—Nathaniel Hone. Dish mushrooms—Frank Workman, The Moat, Strandtown. Two cucumbers—Nathaniel Hone. Six red carrots—Lady Palmer, Rush. Six parsnips—Duke of Portland. Six beet—Duke of Portland. Three savoy—Hugh Wallace, Knock. Three red cabbage—Earl of Longford. Three plants Brussels sprouts—Lord O'Neill. Dish of 12 potatoes, long, table use—James Hay. Dish of 12 potatoes, round, table use—James Hay. Twelve dishes potatoes, distinct varieties, table use—David Cochrane, Ardigon, Killyleagh. Three dishes potatoes (cooked) shown in their jackets—David Gilmore, Toye Post Office, Co. Down.

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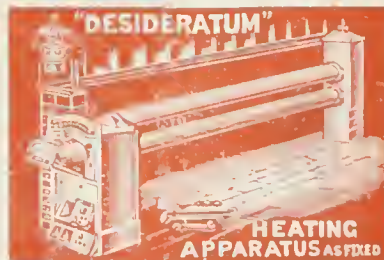
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## Some Notes on Apples at Clonmel Show, 1912.

**T**HERE is no fruit show in Ireland where finer apples are exhibited than that held for the past two years in Clonmel by the Suir Valley Fruit Growers' Association. At this show the first thing that strikes a visitor is the keen interest taken in the fruit by farmers and their knowledge of the numerous varieties in the carefully selected dishes of apples shown by them, for very seldom will you find quality sacrificed for mere size, as is so often seen in older-established shows. Another thing that strikes you is the beautiful colour of the apples, such varieties as Gascoigne's Scarlet, Cox's Pomona, Worcester Pearmain, and often Bismarck and Lane's Prince Albert being entirely of a deep crimson colour and of extra large size. In fact, nowhere have I seen finer fruit of the two last-named varieties than that grown in the Piltown district, and shown here in 1911. Very few good dishes of Cox's Orange Pippin were to be seen this year, and the year may be said to be a bad one for this grand dessert apple and its younger relative, Allington Pippin, both shown so well in 1911. American Mother, Rival, and King of Pippins were well exhibited; a like remark applies to the old Blenheim Orange to be seen in most of the collections of dessert apples. Never have I seen James Grieve at a southern fruit show so sparingly shown and of so poor quality.

Several very good dishes of Ribston Pippin were exhibited, and also Charles Ross, Wealthy and Fearn's Pippin. In cooking apples a lovely dish of the new variety, Rev. Wm. Wilks, was shown by Mr. Tomlin, gardener to Earl of Besborough, Piltown. The fruits were of a nice yellow colour and large, but lacked weight, resembling in this respect Ecklinville Seedling. In another collection I saw a good dish of Norfolk Beauty, a very firm, heavy fruit, of a pale straw colour, with spots of crimson seen on parts of the skin. This and Rival should make good market apples, as the trees produce fruit buds freely. The apples are very firm and will bear travelling well.

Bramley's Seedling was largely shown and nearly always of large size and high colour. The same may be said of the Queen, and seldom have I seen this variety better shown, and the samples that won in the class for twenty-four cooking apples would be hard to beat. The Queen is an apple that many fruit growers condemn as being soft, and so easily injured that it is quite unfit to grow for market, so that it is not often planted in quantity, yet my experience of this variety is that the tree is a good sturdy grower, free fruiter, and with careful packing travels alright. Its beautiful colour always causes the fruit to bring a high price.

Peasgood's Nonsuch was poorly shown for this variety, lacking size and colour generally. Lord Derby was very large, but often coarse, the fruits hollow and a dull green colour. Mère de Menage was to be met with in most of the collections, and no variety of apple that I know of gives rise to greater

difference of opinion as to quality: anyhow, it is a useful apple for cooking in the months of January and February.

Newton Wonder was also largely shown, of good colour, but the fruits were generally of small size. Taking the show as a whole, and considering the season, the apples were very good, and shows the great possibilities of Ireland for apple growing in the future if only the sunny south would take it up with the same enthusiasm as is now done in the black north.

W. T.

## Catalogues.

MESSRS. LITTLE & BALLANTYNE, Carlisle, send a copy of their Planters' Guide, or Catalogue of Trees, Shrubs, Roses, &c. This old-established firm has extensive nurseries, and grows trees and shrubs in huge quantities, so consequently can supply at very reasonable rates. We note that they have recently acquired nearly 500 acres in the Cumberland hills for the raising of forest trees. Trees grown in an exposed and high situation are robust and transplant well. The catalogue contains good lists of Conifers, Rhododendrons, evergreens, and ornamental trees and shrubs. Fruit trees receive due attention, and towards the end is a list of herbaceous and Alpine plants. Useful and interesting information is given to the intending planter throughout the pages of the list.

MESSRS. CHEAM & SONS, of Crawley, are well known in Ireland for having gained, in competition, important contracts in the laying out of parks and pleasure

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## 1913 New Volume IRISH GARDENING

THE new volume will sustain the old standard of excellence as to authoritative articles on both the practical and scientific side of gardening, but new features and new writers will be introduced during the course of the year. Every Irish gardener and every owner of any size garden in Ireland should obtain IRISH GARDENING (monthly) and read it! and having read it should preserve it for binding—it is worth it.

---

**This year's volume (1912) can be supplied bound in Green Cloth, in time for Xmas, 4/11 post free.**



grounds. They have a large experience in landscape gardening, and lay out all kinds of places, from the town garden to the country estate. Their new nursery catalogue deals with Conifers, ornamental trees, and flowering shrubs; a good many of the latter are illustrated, such as the beautiful *Exochorda grandiflora*, the curious *Hamamelis mollis*, *Viburnums*, and others. There are also good lists of roses, and all the hardy fruits. We note the firm is sending out the new apple, "Encore," raised by Mr. Charles Ross; it is a seedling from Warner's King and Northern Greening.

The new autumn list of Hawthorn Sweet Peas and Culinary Peas is very neat and handy. The buyer is told how many seeds of each variety of Sweet Pea there are in the packet, so all is straightforward and plain. For several years Messrs. Alex. Dickson have given special attention to developing and growing all the newest and best varieties, and they say that the stocks offered have all been grown from their own stock seeds, so they can recommend them with confi-

dence. Six good culinary peas recommended by Messrs. Alex. Dickson are Gradus, Alderman, Superlative, The Pilot, Royal Salute, and Rearguard; the three latter ones were raised by this firm.

F. SMITH, Newry, sends three catalogues dealing with Alpine and Herbaceous Plants, Trees, Shrubs and Climbing Plants, and Newry Roses. The Daisy Hill Nursery is well known to plant lovers, and contains one of the best hardy plant collections in Britain. It is situated on an open hill-side at Newry, so that all plants and shrubs grown there can be relied upon for being hardy and well ripened. The Newry Rose list is not compiled for the exhibitor, although it contains some good Teas and Hybrid Teas suitable for hedging purposes, but is a list of what we may call Garden Roses. Roses that will almost take care of themselves once they are given a thorough good start. They include such old favourites as the Damask, the Moss, and Provence Roses, very good lists of China and Climbing Roses, while among the wild species are

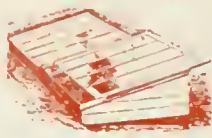
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## WEEDS DISFIGURE YOUR WALKS & LAWNS

### "CLIMAX" LAWN SAND

kills all weeds and enriches the grass. Sample tin 1/-, post free. 2 lbs. to dress 100 sq. yds., 6/-, carriage paid.

### "CLIMAX" WEED-KILLER

Kills weeds, cloaks, and keeps them from coming up again.  
No. 1. 100 lb. cask, 1 gal. 13/-  
No. 2. 50 lb. cask, 1 gal. 2/-  
No. 3. 25 lb. cask, 1 gal. 3/6  
No. 4. 10 lb. cask, 1 gal. 6/-

BOUNDARY CHEMICAL CO., LTD.  
Cranmer Street—LIVERPOOL

some beautiful single flowers. Both Shrub and Herbaceous lists are of a handy size, and each contains a wonderful collection of plants. They are up to date in novelties and rarities—in fact, advice often given to trade growers in England in search of a rare plant is—“Try T. Smith of Newry.” Among the Newry-raised Brooms, Barberries, and Trollius are some fine plants.

MESSRS. DICKSON, the Royal Nurseries, Chester, send four of their catalogues bound in one, forming quite a small book of reference. This large and well-known firm has for many years been one of England's leading nurserymen, and still holds a front place. The fruit catalogue contains a good selection of both hardy and indoor fruits with cultural hints. When young trees of apples, pears, &c., became too vigorous, and often fruitless, to bring them into a fruiting condition, root pruning is recommended as follows:—“A trench should be cut and opened round the tree, at a distance varying from eighteen inches to some few feet from the stem, depending upon the age and size of the tree. All the long, straggling roots should be cleanly cut off with a knife, a sharp spade being afterwards inserted under the tree to cut off any taproot. The trench should then be filled in with some good loam, and the surface mulched. The chief aim is the development of the ‘feeding’ roots, and these fibres should be encouraged into growth and to come towards the surface by mulching.” Messrs. Dickson make a feature of ornamental trees and shrubs, so both nursery and rose catalogues are full of interest, also easy of reference and clear in type. The collection of indoor subjects as detailed in their catalogue of stove and greenhouse plants is very good and select. The firm keeps up to date with novelties in all departments, and issues spring lists of bedding plants, Dahlias, &c.



### “He and She Hollies.”

POSSIBLY, to some people, it may seem strange to talk of plants as male and female. Although the majority of plants have the male and female organs necessary to produce seeds in the same flower, yet there are others where the male and female flowers are borne on separate plants. The Holly is what is known as polygamous. Some trees produce hermaphrodite flowers, with both stamens and pistil; other trees bear male, or maybe female, flowers only; consequently, if female trees are isolated or too far away from the influence of the pollen-bearing trees, they will not produce a crop of berries. The common Holly lives to ripe old age, for authenticated cases have been known of trees from two hundred to three hundred years old.

## Dublin Wholesale Markets.

AT the present time the markets show an all-round decrease in apples as compared with the corresponding period of last year. Home-grown consignments were somewhat scarce, and good prices were obtained for selected lots packed in dozen and two-dozen boxes. Irish apples in barrels are now becoming more plentiful than they were last month. Large consignments from cross-Channel sources are conspicuous on the market. Grapes, too, are being largely supplied, and prices are somewhat low for this season of the year.

Flowers have been a special feature of the market lately. Chrysanthemums, Orchids, Roses and Violets were well in evidence, and were very easily disposed of. Some choice plants in pots were also offered for sale, but did not meet as ready a demand as the cut blooms.

Vegetables have been plentiful this month, and prices show a slight increase. Celery was plentiful, and the quality far superior to last season's crop. The home-grown onions were scarce and of very inferior quality. Artichokes, spinach, lettuce and parsley were in great demand.

#### PRICE LIST—FRUIT.

		From s. d.	To s. d.
Apples—Bismarck	per barrel	7 6	9 0
„ Lord Derby	per bushel	6 6	8 6
„ Dessert	per doz.	0 6	1 3
Grapes	per lb.	1 3	1 6

#### FLOWERS.

Chrysanthemums	per doz. bunches	0 8	0 10
Violets	„ „	2 0	2 3
Orchids	per doz. blooms	0 10	1 0
Roses	„ „	0 10	1 2

#### VEGETABLES.

Cabbage (York)	per load	8 0	13 0
„ (Savoy)	„	7 0	10 0
Carrots	per doz. bunches	0 9	0 10
Cauliflowers	flasket	2 0	2 6
Celery	per doz.	1 4	1 8
Lettuce	per tray	0 4	0 6
Onions	per float	0 6	0 8
Parsley	per tray	0 6	0 8
Parsnips	per doz. bunches	0 6	0 10
Spinach	per float	0 6	0 8
Thyme	per bunch	0 3	0 4
Tomatoes	per lb.	0 3	0 4
Turnips, white	per bunel	0 3	0 5
„ Swedes	per cwt.	0 7	1 0

T. B.













New York Botanical Garden Library



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